THE PRESIDENT'S HEALTHY FORESTS INITIATIVE

HEARING

BEFORE THE

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HOUSE OF REPRESENTATIVES

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THE PRESIDENT'S HEALTHY FORESTS INITIATIVE

WEDNESDAY, APRIL 30, 2003

HOUSE OF REPRESENTATIVES,
COMMITTEE ON AGRICULTURE,
Washington, DC

The committee met, pursuant to call, at 10:00 a.m., in room 1300 of the Longworth House Office Building, Hon. Bob Goodlatte (chairman of the committee) presiding.

Present: Representatives Smith, Lucas of Oklahoma, Moran, Jenkins, Gutknecht, Ose, Hayes, Osborne, Putnam, Janklow, Burns, King, Nunes, Stenholm, Peterson, Holden, Etheridge, Hill, Baca, Case, Alexander, Ballance, Scott, Marshall, Boswell, Lucas of Kentucky and Thompson.

Staff present: Brent Gattis, Kathleen Elder, Kevin Kramp, Callista Gingrich, clerk; Sam Diehl, Elyse Bauer, Kellie Rogers, and Andy Baker.

OPENING STATEMENT OF HON. BOB GOODLATTE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF VIRGINIA

The CHAIRMAN. Good morning. This hearing of the Committee on Agriculture to review the President's Healthy Forests Initiative will come to order.

We appreciate you taking the time out of your schedules to join us this morning to talk about the President's Healthy Forests Initiative. It is very appropriate that we have this discussion at this juncture in the month we celebrate Earth Day, and as we face another season with higher than average risk of forest fire in many parts of the country.

The Chief of the Forest Service made a very interesting point in a speech he delivered on Earth Day when he said there are great issues and great diversions. Great issues are matters that cry out for public attention and resolution. Great diversions are relatively unimportant matters that take up a lot of our time and effort. Healthy forests and how we create them is a great issue.

There are 747 million acres of forested land in the United States, across all boundaries, covering Federal, State and private lands. And many of these forests are in good healthy condition, but 190 million acres are at elevated risk of catastrophic fire. After the devastating fire season of 2000, the agency's task with taking care of these lands collaborated with the States, the counties, and many conservation and environmental organizations, along with interest groups, to develop the National Fire Plan. And everyone agreed,

and still agrees today, that many of our forests are in grave danger. They are not in the state to be sustainable for future generations or even the present generation. Many of these forests are not only a danger to themselves, but a danger to the communities they surround.

A great thing happened when the National Fire Plan was developed. The agencies, communities, environmental groups, and industry groups all coalesced around one idea: Our forests need help. The plan has identified the forests at risk and the communities at risk, and now we need to find a way through the maze of laws, regulations, and policies that communities and forest managers must find their way through without getting lost in the process or perpetually tied up in litigation—not litigation aimed at protecting our forests, but litigation aimed to protect the desires of one interest group to the detriment of all others involved and impacted. We need to bring people to the table who care about our forests and who want to play a constructive role in restoring them.

To get back to what the Chief talked about on Earth Day, I see two real issues facing us today: the health of our forests and the health of our communities, especially, our rural communities. From rural communities in Virginia to rural communities in Oregon and Washington State, there is a need to restore fragile economies, many of whom depend or previously depended on natural resources.

The community of John Day in rural eastern Oregon has a population of approximately 3,000 people and is a classic example of where management policies on Federal lands have impacted not only the national forests, but also the local community, businesses, schools, and the way of life. John Day is surrounded by 1.6 million acres in the Malheur National Forest. The John Day School District has been on a 4-day school week since 1996 in an effort to stay within their budget. The current management plan the forest is working under proposes a yearly timber harvest of 185 million board feet, but in the past 5 years, less than 10 million board feet have been sold annually. Thus the situation remains, little Federal timber harvest causing local industry to be idle, creating high unemployment, business shutdowns, and 4-day school weeks for the children along with much larger class sizes. This situation could be largely remedied by returning to a balance in Federal lands management.

We are not talking about the boom and bust economy of the turn of the last century, another great diversion, but a stable, sustainable economy supported by good stewardship and sustainable forest management; not a management plan of 100 years ago, but a 21st century community's idea of restoring a forest and sustaining a rural economy. What we have are rural communities struggling to survive in horrible economic circumstances in many places surrounded by forests bursting at the seams with overgrowth, in desperate need of management, with no way out.

How much sense does it make that we have people in communities in desperate need of employment when we have forests in desperate need of management? Unfortunately, we have a few powerful groups holding both the forests and the communities hostage with their misleading messages and rhetoric. Look around at our

Nation's forests and look at the plans the agencies have for management. Of the 190 million acres of land at elevated risk to wildfire, the agency only has plans to treat approximately 1 percent this year. The goal is fundraising and fear works. Scare someone into thinking the Forest Service is about ready to slick off all the trees in the land, and you have a great diversion and a great fundraising hook. And as an added bonus, you can help mold policies that will have absolutely no foundation in science, let alone good science, and have a devastating impact on the health of our Nation's forests and on the health of rural economies. That is a good example of a great diversion.

It has been a very successful tactic for diverting attention away from the real issue of creating healthy, sustainable forests, and good at diverting attention away from the real issue of the economy of the rural communities. Let us focus on the real issue of creating sustainable economies in rural areas and healthy, sustainable forests. Let us bring people together to work constructively on projects in our forests to reduce the fire hazard, to reduce the impact of infestations of insects and diseases, and to make the process manageable so we can have a positive impact on the environment.

The agency developed a report entitled "Process Predicament" where they examined the existing process and identified the problem areas. Where is the process failing? The Healthy Forest Initiative identifies solutions to some of these problems. I welcome you all before the committee today and look forward to hearing from you about the Healthy Forests Initiative, and it is my pleasure to recognize the Ranking Member of the committee, the gentleman from Texas, Mr. Stenholm.

OPENING STATEMENT OF HON. CHARLES W. STENHOLM, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. STENHOLM. Thank you, Mr. Chairman. Thank you for calling this hearing today to address the catastrophic wild fires and the management question of our forests that have literally destroyed millions of acres of private and public forests in recent years.

Last year, 23 firefighters lost their lives and taxpayers spent about $1.5 billion to contain record-setting fires. In the rural communities nearest to the forest, tens of thousands of people were evacuated from their homes, thousands of structures were destroyed, and tourist dependent economies suffered significant financial losses. The bad news is that our national policy has been and is a part of the problem. For the last century, public land managers have suppressed all forms of wildfire, including natural small scale burnings that restore forest ecosystems. These natural small scale fires burn at ground level at relatively low temperatures, allowing some trees to survive and renewing the forest. Suppression of these natural small scale fires has resulted in an accumulation of fuel that supports wildfire of unnatural intensity. These catastrophic fires burn hotter, spread faster, and cause long-term severe environmental damage, sometimes even sterilizing the soil.

As land managers have tried to address this accumulation of fuel, they have been hamstrung by red tape and legal challenges. The good news is that by streamlining the implementation process for forest health projects, the Healthy Forest Restoration Act will

allow Federal land managers to restore our forest to a more natural balance while maintaining tough environmental requirements.

Mr. Chairman, thank you for your attention to this important issue. I will be proud to cosponsor the Healthy Forest Restoration Act when it is introduced this week, and I encourage my colleagues to support the bill, and I encourage those who continue to oppose good management, sound science, to take a good look at your philosophical ideas and see whether or not you cannot also come around to supporting this act this year and seeing that it gets to the President for his signature.

The CHAIRMAN. I thank the gentleman for his very concise and well thought out comments, and also, for his support of the legislation that we will be addressing this week.

Mr. STENHOLM. In complete disclosure, your promise not to muck around with my mesquite trees has been very helpful in bringing me back.

The CHAIRMAN. Well noted.

I am now pleased to recognize the gentleman from Minnesota who is the chairman of the subcommittee with jurisdiction over our forests. The gentleman from Minnesota.

OPENING STATEMENT OF HON. GIL GUTKNECHT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA

Mr. GUTKNECHT. Thank you, Mr. Chairman. I will submit for the record a written statement. Because I want to hear from the witnesses, I will shorten this. For the benefit of the Members, I will say this, that Adam was told to tend the garden, and in some respects, we are charged with the responsibility of tending these forests, and I think any objective observer would have to conclude that the Federal Government has not done as good a job as they should be doing. So I want to thank you for having this hearing and I want to thank the President for his leadership in the Healthy Forests Initiative.

Let me just share with the members some numbers here. The Forest Service own estimate show that planning and assessment compromised 40 percent of the Forest Service workload and eat up approximately 250 million of the taxpayer dollars. The same estimate suggests that this cost could lowered by $100 million a year simply through better management and elimination of the redundant and excessive requirements.

Now, I will just cut right to the chase. I think that this is an issue whose time has come. It really calls for common sense, and it seems to me that the proposals are being brought forward today, and hopefully, what we will be acting on in the future are the right remedies for this issue. Again, I congratulate the chairman, the staff, and the administration for their leadership on this issue. I yield back my time.

The CHAIRMAN. I thank the gentleman. Are there other opening statements? The gentleman from Michigan's statement will be made a part of the record and the gentleman from South Dakota is recognized.

OPENING STATEMENT OF HON. WILLIAM J. JANKLOW, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF SOUTH DAKOTA

Mr. JANKLOW. Thank you very much, Mr. Chairman. I am thankful you called this hearing. And also, the people in the State that I come from that have bronchitis, and the people that have lung cancer, the people that have emphysema, the individuals in my State who are newborn babies whose lungs are still developing, the citizens who breathe the air in South Dakota, we thank you for holding this hearing.

You see, in the last five major fires in the Black Hills over the last 3½ years, 20 percent of the Black Hills of South Dakota have burned down, costing tens of millions of dollars. In addition to that, over the last 3 years, 17 million acres of forest in this country have burned down in fires; 8.4 million in 2000; 3.6 million in 2001; and 6.9 million in 2002. The cost of fighting those fires from the Federal perspective is over $4 billion. $4 billion, a huge portion of which could have gone into things like schools, education for our children, conquering disease, solving problems of hungering, or fixing problems with forests.

The State foresters of this Nation aren't all idiots. They all understand what is going on in the forests in their States, and we don't listen to them in Washington. No one listens to these local people that have the expertise and have the sound science behind them. I congratulate Mr. Bosworth, Mr. Rey, the President, this administration, for the bold initiative they have taken in the face of the kinds of criticism they are receiving with respect to the forests.

If I can show you, Mr. Chairman, a picture in this book, the picture on your left is a picture of the Black Hills National Forest when General Custer's expedition was out there. The picture on the right is what that identical spot looks like today. You can see far, far more trees. There were no trees in the Black Hills area, in that particular area, when the picture was taken when General Custer was out there. But the key thing with respect to these forests is that they have been driven for at least the last decade by political management—for several decades. It isn't just the last decade—by political management, and not the expertise in how you run the forest.

Foresters that work for the Federal Government have been given direct orders from Washington as to the decisions they ought to make with respect to their discretion under the law. The rules are so Byzantine in how you get a forestry program approved, there are some instances where there are 800 different steps that Federal agencies have to take in order to get a process approved within the National Forest. That is unbelievable, it is immoral, it is wrong, Mr. Chairman. So I thank you for conducting this hearing and I look forward to the testimony these witnesses will give because they will assist in enlightening all of us as to one of the worst things that we can do to the environment. There is no worse environment than to be cold, and hungry, and unemployed. And as a result of the fires in the West and the way they are burning down and managing the forest, we have people who are cold, hungry, and unemployed. Thank you.

The CHAIRMAN. I thank the gentleman. I understand the gentleman from Michigan does have a brief statement.

OPENING STATEMENT OF HON. NICK SMITH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. SMITH. Just as part of my total statement that I wanted to introduce for the record, Mr. Chairman, it seems to me that in order to protect our forests more comprehensively, that any healthy forest initiative provide programs that address, also, the disease and insect infestations. In Michigan, we have been invaded with the emerald ash borer that is now threatening 700 million ash trees in Michigan. It is spreading into Ohio. The Department estimates that there is a potential 2 percent loss of total lumber in the United States if this is allowed to continue to spread, with an estimated cost of $20 to $60 billion.

So fires and what happens in that fire management is important, but also, what happens with disease and insect infestation is also important. Thank you.

PREPARED STATEMENT OF HON. NICK SMITH A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

I want to thank Chairman Goodlatte and Ranking Minority Member Stenholm for holding this hearing to review the President's Healthy Forests Initiative. I applaud the administration and the various agencies represented here today that have been working within the current system to address the problems that face America's forest ecosystem. As we have heard today, catastrophic wildfires have decimated our forests over the last several years and will continue to do so if we do not act to streamline the procedures by which fire prevention strategies are implemented. Removing some of the bureaucratic red tape for performing fire prevention measures is not only environmentally friendly but also fiscally responsible, as fire prevention costs American taxpayers approximately one-fourth of what it costs to fight catastrophic forest fires.

In addition to fires, disease and insect infestations are also detrimental to our forest ecosystem. In southeast Michigan, we have been combating an exotic beetle known as the emerald ash borer which has been destroying our ash tree population. This invasive pest has resulted in the quarantine of all ash products in six counties in southeastern Michigan. With 28 million ash trees in the six quarantined counties, an estimated 700 million ash trees in Michigan, and findings that the pest is spreading into Ohio, the magnitude of this problem is apparent. Preliminary data from the Forest Service estimates that the potential national impact of the emerald ash borer is a loss of up to 2 percent of total timber and a value loss of between $20 to $60 billion. Thus, in order to protect our forests more comprehensively it is important that any healthy forest initiative provide programs that address problems of disease and insect infestations as well as streamline procedures for implementing fire prevention strategies. I thank the chairman for supporting the inclusion of our Michigan emerald ash borer problem in the Healthy Forest Restoration Act of 2003.

The CHAIRMAN. I thank the gentleman, and you will be pleased to learn that the legislation coming forward does specifically address the emerald ash borer. Now, I am delighted to welcome our first panel.

The Honorable Mark Rey, Under Secretary of Natural Resources and the Environment of the U.S. Department of Agriculture; the Honorable Rebecca Watson, Assistant Secretary for Lands and Minerals Management with the U.S. Department of the Interior; Mr. Dale Bosworth, Chief of the U.S. Forest Service; and Dr. Peter Roussopoulos, Director of the Southern Research Station of the U.S. Forest Service of Ashville, North Carolina.

Mr. Rey, welcome. We are pleased to have your testimony. We would ask all of our witnesses to limit their statements to 5 minutes, and their entire statement will be made a part of the record.

STATEMENT OF MARK REY, UNDER SECRETARY, NATURAL RESOURCES AND THE ENVIRONMENT, U.S. DEPARTMENT OF AGRICULTURE

Mr. REY. Thank you, Mr. Chairman. As this is our first appearance before you since you became chairman, I want to start by congratulating you and expressing our desire on the part of the Department, the Department of the Interior as well, to work closely with you during your tenure. I also wanted to express my appreciation on behalf of both departments and the President for your leadership and that of Mr. Stenholm in introducing the Healthy Forest Restoration Act.

We have one statement for the record, which has been submitted on behalf of both departments. Each of us will summarize. I will talk a little bit about how the 2002 fire season went, what we have done to restore our lands and prepare ourselves for the 2003 season and how that, we think, is shaping up. Secretary Watson will talk about the administrative elements of the Healthy Forests Initiative. The Chief will talk about how we are moving to implement the stewardship contracting authority that you granted us in the omnibus appropriations bill. And Dr. Roussopoulos will talk about insect and disease infestation problems and what we are doing to address them.

The 2002 fire season, by the time it was over on November 19, 2002, burned 7.2 million acres nationwide. We expended $1.6 billion, making it the most expensive fire season in history. We had wildfires reported in each of the 50 States, so this is not a regional issue by any stretch of the imagination. We spent 62 days at preparedness level 5, the highest level of preparedness. That is 22 days longer than we spent at that level in 2000, our worse fire season in the last 100 years.

Nevertheless, 99 percent of all of the wildfires were stopped during initial attack due to the extra resources and coordination provided by Congress and developed through the National Fire Plan. We used additional firefighting assistance from a mobilized U.S. Army battalion and from firefighters from Canada, Australia, and New Zealand, countries with whom we have reciprocal relationships. Nevertheless, the larger fires did have devastating effects on watersheds, wildlife habitat, air quality, tourism, soil erosion, and even old growth forests.

We are now in the process of doing the advanced restoration work to address the impacts of those fires. The majority of work that is still needed will be to respond to the six to eight worst fires. Through our Burned Area Emergency Rehabilitation Program, the Department of Agriculture has spent $72 million to that end, and the Department of Interior has spent $78 million. We have carryover funds in the 2003 budget runs for another $50 million in restoration work. We have also reviewed over the course of the off season our preparedness and cost structure for firefighting. We have reviewed aircraft safety and developed new safety standards for contract firefighters. We have assisted over 11,000 communities in

prevention work and provided over 5,000 rural and volunteer fire departments with training or equipment, including the New York Fire Department, the Fire Department of New York City. As part of their training in the incident command system, they will be participating with us this summer in some wildland fires. I think we will be able to pick them out by their accent probably.

The costs of last season also spurred an interagency accountability team to review expenditures on large fires and establish new cost containment procedures and clearer financial accountability for incident commanders. And we are also implementing new systems to assure real time accrual of expenses from all large fires.

What I would like to do in the last minute, with the assistance of a map which someone I hope will put up here shortly, is to talk about what the 2003 fire season looks like. It is shaping up as long-term drought persists and is expected to intensify over much of the interior west. Unless weather patterns change dramatically, 2003 has the potential and will in all likelihood be an above normal fire season in portions of the Pacific Northwest, the northern and central Rockies, and northern Great Lakes. The areas in Crosshatch Red are areas where we expect above normal fire risks for 2003. The areas with Crosshatch Green are where we expect lower than normal fire risks as we enter this fire season. So there is good news and bad news on that map. The good news is in the Southeast, where the drought has been broken, and that will allow us to do a lot of prescribed burning this summer, which we were unable to do last summer. The bad news is in the northern Rockies, and Oregon, and Washington, where we expect above average fire risks.

That will conclude my statement, and I will turn the podium to Secretary Watson.

The CHAIRMAN. Thank you, Secretary Rey. Secretary Watson, welcome. We are pleased to have you with us today as well.

STATEMENT OF REBECCA WATSON, ASSISTANT SECRETARY, LAND AND MINERALS MANAGEMENT, U.S. DEPARTMENT OF THE INTERIOR

Ms. WATSON. Good morning, Mr. Chairman and members of the committee. The Department of Interior is honored to be here to work with Secretary Rey and discuss the President's Healthy Forests Initiative. In August 2000, the President introduced his Healthy Forests Initiative, which seeks to address the dense, unhealthy condition of forests, rangelands, and woodlands in Federal ownership so that they can be resistant to disease, and insects, and catastrophic wildfire. As a predicate to the administrative changes that I will quickly walk through, I want to show you some photographs to demonstrate why the President has shown leadership in this area.

The first is a photograph from the area I come from, Montana. This is the western side of Montana in Bitterroot. Similar to the picture that the Representative from South Dakota showed us, a little bit later than General Custer, this is a photograph in 1895 that showed the forest as open and dominated by fire tolerant trees. By 1980, the picture in the middle, you see that the trees have formed a dense thicket around this cabin. They are prone to disease and vulnerable to drought and wildfire. 2000 is the after-

math of the fire season we experienced there. The cabin was moved, which is an option not available to most homeowners, but the trees have been burned and only a few trees are left.

The next picture shows San Bernardino in California. This is an example of why we have such tremendous costs in fighting fires in the wildland-urban interface. The wildland and urban interface is quite close in this picture, as you can see. The houses are intermixed among the trees. The trees are red because they are filled with disease and they are dying. Again, to get to a point that was raised by another representative, the insect infestations are difficult and time is of the essence, which is why we have put these administrative reforms in place. For example, in San Bernardino, in August 2002, 100 acres were infested with insects. By October, 60,000 acres were infested. By January 2003, 151,000 acres were infested. And then just 3 months later, in April of this year, 350,000 acres. So these insects move fast and we have to be able to deal with this in a more timely fashion than we have been.

San Bernardino isn't the only place. Areas of Boise, ID have similar growth of the urban interface. New Mexico and Colorado face an outbreak of the IPS beetle that is spreading rapidly. What we propose to do is to address this situation. This is a picture showing how fire reacts in an unthinned forest. It leaps to the crown, travels very fast, throwing out embers miles in front of the fire front. And the front of the fires can be huge, like we saw in Arizona and Colorado, presenting challenges to fight them.

This is the aftermath of a fire like we saw in the crown fire, burned trees, nothing really left in its aftermath. The next picture shows how fire reacts in a healthy forest, in a treated forest. The fire drops to the ground and can work through, clearing out the underbrush and adding nutrients to the soil, not damaging the soil. That is our goal, is to get fire to operate in that fashion. The aftermath in a thin forest is this. This forest was burned, but it doesn't look like it was burned. It was thinned, the fire dropped to the ground, and trees survived.

I think a most dramatic representation of this is in this last photograph, which shows the Rodeo Chediski wildfire. This demonstrates areas of burn. The red is the most severe burn, the yellow is a less moderate severity, and the green represents areas that weren't burned. It also represents areas that had been thinned. And you can see the impact of thinning on that forest. I just quickly want to talk about the administrative changes that the administration has proposed or enacted. First, in the area of the National Environmental Policy Act, we have proposed two categorical exclusions; one for hazardous fuels reduction and the other for post wildland fire restoration. They are narrowly crafted to only apply to areas that have less sensitive environmental concerns. They are informed by other 3,000 similar projects, and we have received some 39,000 comments on those proposals.

The third NEPA proposal we have is the model environmental assessment, and this is guidance that was put out by CEQ on how to do the paperwork for NEPA in a more expeditious fashion. We have 15 projects testing that. Both agencies have proposed administrative appeals process changes to encourage meaningful public participation at the beginning and the design of the project and to

address appeals first at the head of the list, so these appeals get heard quickly to reflect the emergency situation we have.

We have also made changes to how the Endangered Species Act is processed so that we do it in a more intelligent and expeditious fashion, working collaboratively between Fish and Wildlife Service and the action agency designing projects ahead of time to avoid species, and then doing projects in a bunched fashion. And the finally, Chief Bosworth will talk more about the stewardship contracting authority that we requested in legislation and which was given to us in the appropriates bill. We think these tools will allow us to get more work done on the ground in a timeframe that is meaningful to citizens and to the health of the forests and rangelands. We look forward to working with the committee on legislation. Thank you.

The CHAIRMAN. Thank you. Secretary Watson. Chief Bosworth, we are pleased to welcome you to the committee as well.

STATEMENT OF DALE N. BOSWORTH, CHIEF, U.S. FOREST SERVICE,

Mr. BOSWORTH. Mr. Chairman, thank you for the opportunity to be here. Our goal at the Forest Service is healthy forests in some cases that is going to mean that we need to do restoration work so we can get the conditions that we need to have in the forests in order to have them be healthy.

For example, we have been very successful, as people have mentioned, at suppressing wildfires over the years. But because of that, and because of our inability to do some of the necessary thinning, we have some conditions of overstocked stands or stock forests that are leading to the situation that we are faced today. The ponderosa pine forests are a really good example, I think, particularly in the West. The ponderosa pine forests in the West are great examples of how that fuel built up and fire dangers increased.

The central focus that we have at the Forest Service is of what we leave on the land, what conditions we need to leave on the land, the right number of trees, the right size of trees, the right species of trees, so that we can have those healthy conditions. That is much more important than the arguments about what we take from the land. I believe there is some serious threats facing our Nation's forests and grasslands and I would like to just mention three of the four that I think are the most serious are going to be facing us over the next 20 years.

Fire and fuels is No. 1 in my viewpoint. It is a continued concern and the best way to address that is through active management to restore healthy forests. Number 2 is invasive species. It is a big problem and it contributes to unhealthy forests, and I am talking about insects, diseases, and plant species that are spreading throughout the country. Invasive weeds, for example, cover an area that is one-third larger than the State of California. And then the third one I would like to mention is habitat fragmentation through land conversion that contributes also tot his critical issue and affects our ability to have healthy forests and clean water. And that is also a great threat to wildlife and losing our ecological integrity in the land.

And I would like to commend the Agriculture Committee for helping address that issue through programs that will allow economic incentives for keeping blocks of land undeveloped. Things like the Farmland Protection Program, the Grassland Reserve Program. The administration is also addressing this issue by proposing a large increase in funding for the Forest Legacy Program that was authorized by the Agriculture Committee in the 1990 farm bill and we appreciate that.

We also have issues with our processes that have grown to the point where paperwork impairs our ability, I believe, to act in a timely manner. In our desire not to make any mistakes on the land, we are making a huge mistake of doing nothing. The administration's proposed actions, I think, would allow us to update our procedures and to modernize the procedures so we can act in a much more timely manner while providing appropriate environmental review and protection.

So now I would like to also commend the committee for the support on the Stewardship Contracting. The inclusion of this authority and the Omnibus Appropriations Act I believe will be really helpful and useful for the agency in focusing on resource conditions as outcomes of projects. So some of the things that we are doing we have already undertaken in the Forest Service, at least, have had the authority for a few years, and we have undertaken in the Forest Service a lot of resource work under the 1984 pilot projects that were previously authorized. We have successfully engaged in local collaboration on these pilot projects and we in the Department of Interior will be doing the same as we expand the use of this tool.

We have already conducted listening sessions with the Department of Interior to engage the public as we expand on issues and will continue to involve the public in developing guidelines. The agencies will exercise authority over the design and the implementation of these contracts, and I read in the newspapers that we are simply proposing to turn over the management of these forests and rangelands to private industry. That simply is not the case. We will still be following all the environmental laws, we will still be administering contracts like we have always administered contracts. This is going to be just a different tool that we will use in order to accomplish the desired condition on the land. We plan to engage a broad array of partners and projects and will include multi-party monitoring of the effectiveness of this authority. I believe that in 10 years, we are going to have strengthened our capacity significantly for community based forestry, though, more on local capacity for collaboration, and will have increased the constructive involvement of the public in forest management decisions.

I thank you for the opportunity to be here, as I said, and I am looking forward to answering any questions. Now Dr. Roussopoulos will continue on.

The CHAIRMAN. Thank you, Chief. Dr. Roussopoulos, welcome. We are pleased to have your testimony.

STATEMENT OF PETER J. ROUSSOPOULOS, DIRECTOR, SOUTHERN RESEARCH STATION, U.S. FOREST SERVICE, ASHEVILLE, NC

Mr. ROUSSOPOULOS. Thank you, Mr. Chairman. Good morning. And thank you for inviting me from your neighboring State to the south to be a part of this distinguished panel.

We want, before we close today, to address another issue that we deem to be serious that is facing America's forest and rangelands, the spread of invasive species and native bark beetles. Forest insects, fungi, and parasitic plants have always been an integral part of our forest ecosystems and rangeland ecosystems in the United States, and they play critical roles in the succession of the species composition, structure, and function of our systems on our wildlands.

Though they have been with us for a long time, they are behaving differently today than they have in the past, or some of them at least are, and this is due in part to changes in the structure, composition, and dynamics of the forests themselves, due in part to lack of active management, and to prior exclusion for such a long period of time. And of course, introduction of non-native exotic species has exacerbated some of the problems that we are experiencing, particularly, the pathogens and insects that are affecting our forests today. And of course, the drought conditions that our entire Nation has been experiencing over the past 3 or 4 years tends to make our forests more vulnerable to invasion and damage by these pests that are performing in nontraditional ways or nonhistoric ways.

Large insect and disease outbreaks know no boundaries. They do not respect jurisdictions, they do not respect political lines on a map. They affect Federal, State, and private landowners. When these outbreaks occur, local managers try to assess the situation, and where they can, do what they can immediately to minimize the potential losses of those situations. Many cases, however, require extensive environmental analyses, and often—has been referenced earlier this morning, often, the opportunity to effectively act to protect our resources is lost in the interim. An example that comes to mind for me is southern pine beetle in the Cherokee National Forest in eastern Tennessee, where an inability to act in a timely fashion has very seriously diminished the pine resource in eastern Tennessee on the Cherokee National Forest and beyond.

Two comprehensive strategies have been developed by the Forest Service to address southern pine beetle and western bark beetles. The goal of those strategies is to treat ongoing infestations and reduce the likelihood of future large infestations. Suppression of an epidemic, of course, is only the first step in the long-term process required to establish and maintain forests and rangelands that can withstand—or will be less susceptible to future attack.

Public and landowner education programs and continued research in support of suppression, prevention, and restoration activities are key to these strategies. We are currently in the process of developing a comprehensive strategy for the broader range of invasive pests that have been discovered and we expect to be discovering. The interesting thing about these threats is that we have to start from scratch in understanding them. Very little is known

in their areas of native habitat, or very little is documented about them, and they operate differently when they come to a new environment here.

We conduct research in the Forest Service on native and invasive insects, pathogens, and plants at our network of experiment stations across the south. We collaborate with a large number of agencies and institutions in doing so, and that work has led to many of the policies that are in place today in dealing with gypsy moth, emerald ash borer, Asian longhorned beetle, hemlock woolly adelgid, sudden oak death, and so forth. For example, some of the fundamental biological work that is guiding quarantine policies for the Asian longhorned beetle and sudden oak death stemmed from Forest Service research programs in collaboration with the many folks we work with.

It is not just forests, but rangelands, also, in particular, become havens for herbaceous non-native species. An example, I guess, is cheatgrass in the West that also has an interesting kind of interaction with fire in that it is an extremely flammable species and propagates itself substantially in the wake of wildfires, so you get a cycle developing where the presence of cheatgrass encourages fires, that encourages the growth of cheatgrass, and you have got an ever-widening spiral of degradation.

We deem these issues to be critical threats, these biological agents that we are experiencing on our forests, to be critical threats to the health and productivity of our forests and rangelands. We are pleased to see that measures to accelerate research and management activity to address these threats are being considered by the Congress today, and we thank you for your interest in these matters. I believe we stand ready for questions.

[The prepared statement of Mr. Rey, Ms. Watson, Mr. Bosworth, and Mr. Roussopoulos appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Doctor. I appreciate all of your comments this morning. It is clear, I think, to most people, that unhealthy forests have not only an economic, a devastating economic impact, but also, a devastating environmental impact; especially, when forest fires result from the overload of fuel, and that manifests itself in a number of ways, not just the absolute destruction of these forests, not like a healthy forest fire that drops to the ground and burns the undergrowth and so on, but just destroys the entire forest, may not regenerate for years, if not generations. but it has other impacts as well. It clearly destroys the habitat for various wildlife.

There is no doubt that in the past few years, hundreds of thousands, if not millions of acres of habitat for spotted owl have been destroyed. Notwithstanding, all of the, in my opinion, misguided efforts to try to protect that species in ways that have caused more harm to it than good for it. Degradation of streams and fish in those streams, and in an area that I raised in a hearing last year—Secretary Rey, I know you were with us then—that I think is repeatedly overlooked and which the gentleman from South Dakota alluded to in his comments, about the concern for the health of his constituents from respiratory illnesses and other effects of air pollution. It seems to me that when you burn 7 million acres of forest land, a billion or more trees, that the air pollution impact of that

must be absolutely devastating and must be in some way quantifiable.

And I know that there is research under way by the Department to accomplish that. I wonder if you can tell us, Secretary Ray or Chief Bosworth, if you have made any progress in that regard and elaborate on the types of impact that we have seen over the past few seasons during these catastrophic events?

Mr. REY. We are undertaking some research now to be able to project what kinds of emission loads are generated from wildfires. There is a fair number of variables in terms of when the fires burn, what kinds of areas they are burning through. But we do know some things that are pretty straightforward. We know that the particulate size that is emitted from a wildfire is of a particular concern to EPA for human health reasons because it does have significant human health effects in areas where we have those fires. We also have a visibility impact that occurs over an even larger area and diminishes the vistas that we have in some of our wildland areas as well. We had a little bit of that here last summer, getting some of the smoke from the fires that were burning in Quebec during several days last summer when we had less than ideal visibility.

We also have an impact on some non-attainability areas so it complicates EPA's regulatory program in areas where air quality is already impaired as a consequence of industrial or mobile sources. So those are all significant impacts. They occur both from wildfires and from prescribed fires. The difference is that with a prescribed fire, you can control the time and to some extent the duration and intensity of the smoke that is going to be generated, and you have a much less severe result. But that underscores the fact that there is a limitation in the use of prescribed fire that has to be accounted for when we put together our burning plants.

The CHAIRMAN. Thank you. Chief Bosworth, does anybody else want to add to that?

Mr. BOSWORTH. I would only add one brief thing. It just makes sense that when you do a certain amount of thinning and remove some of the material and make use of some of that smaller diameter material, that you are going to have less—less is going to go up in smoke. And we are working very hard through our forest products lab in Madison, WI to develop more and more uses for small diameter materials so that we can make use of it rather than leaving it in the forest to burn through wildfire or through prescribed burning.

The CHAIRMAN. Thank you. In my opening statement, I mentioned one community as an example of the impact that forest management has had on the fabric of communities, and I know that there are similar stories in many other towns. How will the Healthy Forests Initiative affect these communities? Secretary Watson and anybody else who wants to answer.

Ms. WATSON. I think that one of the things the president emphasized in the Healthy Forests, he titled it Healthy Forests and Strong Communities, and the idea here is in addressing our forest health, to also address the health of our communities by looking for ways that we can work collaboratively with communities, giving them the equipment to help us suppress fires, but also, more im-

portantly, involving them in how we improve the health of forests and rangelands. So that is a very strong component. That is why Stewardship Contracting is something we at the Department of Interior are looking forward to utilizing and developing. We think that that gives us an excellent opportunity to involve communities in economically sustainable rangeland and forest restoration activities.

The CHAIRMAN. Thank you. Does anybody else want to comment on that?

Mr. REY. I think the important thing to focus on with the Healthy Forests Initiative is that we are primarily interested in the quality of the forest we leave behind. But within that primary objective, there still is going to be a large amount of material that is going to be removed and the contribution to the economic well being of those communities is going to be finding ways to utilize that material, to provide it on a sustainable basis, and then to utilize it to generate economic activity.

The CHAIRMAN. One last question. Earlier this week, a District Judge in Montana, substituting his forest management knowledge for that of professional forest managers, ordered the stoppage of all activity on the Lolo National Forest. If the bill being considered in the Resources Committee today had already been enacted, could it have changed the outcome of that decision, Secretary Rey?

Mr. REY. I believe it well could have. Let me start by saying it is our hope that as the Judge reviews the full record in that case, that he will reach an alternative conclusion than the one indicated in his preliminary injunction order. But by the same token, section 107 of the bill that you have introduced and that many of your have cosponsored, provides direction to the courts when they are evaluating the wisdom of preliminary injunctions to look at both the short-term effect of the activity that is proposed and the long-term impacts of inaction. In this particular case, the analysis that we did on those restoration projects strongly indicates that the long-term impacts of inaction are going to be far more severe from an environmental standpoint than the effects of the activities in question.

The CHAIRMAN. Thank you, Secretary Rey. The gentleman from Indiana, Mr. Hill.

Mr. HILL. Thank you, Mr. Chairman, and I would like to thank you for holding this hearing on a very important issue. I represent southern Indiana, and the bulk of the Hoosier National Forest is in my congressional district. I also represent Indiana University, and there are many people connected to the University in the city of Bloomington who are in contact with me on a regular basis about what you are proposing, Mr. Secretary, and they are adamantly opposed to it. They call your description of the President's Healthy Forests Initiative laughable in terms of its definition. Why are they wrong and you are right?

Mr. REY. Well, I hate to generalize, because that usually does a disservice to the people who you are generalizing about, but there are two competing points of view, at least, two general competing points of view at large in this debate. One point of view is that these systems will fix themselves, and that if we are just simply patient enough, that nature will take care of itself, and that inter-

vening in that is a bad thing. Now, I don't agree with that point of view, but I respect the fact that people have it.

And the contrary point of view, which is the one I hold, is that we know enough science, and we have enough technology and wisdom, to be able to provide some assistance to bring these forests back into a sustainable situation which they are not currently in. Fire is a natural part of most North American forest systems. The fires that we are experiencing today are not natural fires from an historical or ecological sense. But if you hold the former view, that everything will be fine if we just let nature take its course, then nothing I say is going to sway you with regard to what is needed to be done to improve the health of the forest.

Mr. HILL. Well, but nature taking its course has kind of been our policy for a lot of years. Why, suddenly, do we need to change that policy?

Mr. REY. Well, we actually haven't been letting nature take its course for the 100 years because we have been suppressing fires and allowing this fuel buildup to continue, and that increased fuel, the difference in the pictures that both Secretary Watson and Congressman Janklow showed you, are what is fueling these large, intense catastrophic unnatural fires. My view is that we have a responsibility to correct mistakes that have been made in the last 100 years, and we have to do that in a way that is sensitive both to the ecological needs of these systems, but also reflective of the fact that things change. We have a lot of people living among these forests now, and just stepping back and letting nature take its course isn't going to be too attractive to them if their homes are in the way of the fires that are going to burn.

Mr. HILL. Let me ask you this then, Mr. Secretary. These same people that have expressed their concerns about your plan are also concerned that this proposal that you are making would lead to a lot less public comment. Assuming that you are right and they are wrong, they feel like this bill gives them less of an opportunity to point out their point of view. Would you disagree—does your proposal do that?

Mr. REY. No. I think that the proposal provides the opportunity for public comment and tries to make that comment occur when it is most likely to be useful to decide how to proceed with a particular project or group of projects. What we are trying to do is to change the public dialog so that it is more collaborative, it is occurring earlier in our decision making process, and it is less prone to confrontation. Right now, the public comment process that we have is far too prone to be coming an adversarial process with a too heavy emphasis on appeals and litigation. It is our hope that as we modify the public comment techniques that we use and build a better sense of collaboration, more people will come together and we will find some common ground or commonsense management changes that need to be made to help these forests and rangelands out.

Mr. HILL. What, specifically, are you proposing that you want to modify then, in terms of the public comment period? What are you doing?

Mr. REY. Well, let me give you a fairly straightforward example in dealing with the changes to our appeals process. The Forest

Service, unique among agencies, has an appeals process that doesn't require an appellant to participate in the public comment process while a decision is being made and before it is completed. So if you are determined to stop an activity from occurring, it is in your interest not to apprise the agency of your concerns while the issue is still before the public for review. You are better off to wait until the decision is final and then spring your appeal so that you can ambush the agency. That is debilitating to the people who are doing the work on the ground to get the project done. It is unfair to the people who participate in the development of the project on a good faith basis and it is ultimately unproductive.

What we are changing in our appeals process, if we are giving our land managers the authority to involve the public earlier in the process and we are imposing a requirement that if you want t thereafter be an appellant once a decision is reached, you have to have participated in the public comment period when the project was proposed and open for public comment. Some people are characterizing that as eliminating their rights of appeal. Well, it is not. It is putting everyone on an equal footing, that if you are concerned about a project, we want to talk to you while we are formulating it. We want to hear what your concerns are so that we can address them if we can and talk about them at least if we can't, and thereafter, if you are still dissatisfied, you get to file an appeal, but only if you participated to begin with.

Mr. HILL. Okay. I see my time has expired, so thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman. The gentleman from Michigan, Mr. Smith.

Mr. SMITH. Mr. Chairman, with all the other great things about Michigan and our superiority in different areas, you might not have realized that Michigan ranked between 10 and 15 in terms of the top States in the Nation in terms of forest production. We have about 5 million acres of forest land, about half are owned by Government, either State or Federal, and so the forest problem is always real. One of my questions deals with the insects, the beetles, the invasive species. Throughout history, we have always thought that we were doing the right thing. We always thought that we had the scientific knowledge to do what was right for forest lands, and now in review from the early concerns of fire and whatever, the 1905, 1910, through the 1920's, we decided we are going to put out all fires.

How do we now know—I guess, first, on the invasive species, is there any relation to what we have done in the past that is causing increased problems with insects, and disease, and invasive species?

Mr. REY. I don't think the growth in invasive species is a function of mistakes we have made in the past so much as it is a reflection of the globalization of trade, technology, and travel today. And because of that, we have a far greater opportunity to introduce new species in areas where they previously didn't exist and into systems that aren't as adapted to deal with them, and that, I think, is why we are seeing the more rapid spread of invasive species today.

Let me also correct a misapprehension I think I may have made with one of my previous answers. Putting out all fires at the turn of the last century was not a mistake when viewed in the contem-

porary context of that time. We had to show that we could actually bring some semblance of control to the open range and to open fire systems in order to make the forestry a sustainable proposition in the first place. So it wasn't a mistake then, but it obviously is something we have to remedy now.

Mr. SMITH. I mean, there could be a disagreement. I disagree with that, but in terms of the right balance, for example, in fires. How do we know what the right balance is between allowing Mother Nature and fires to some extent, so whether we are talking about the Kirkland warbler or anything else that results from that balance, how do we know it is the right balance? Maybe just a quick response from each of our witnesses, and then I will——

Mr. REY. The balance we are trying to achieve is to reintroduce fire into these systems in a way where fire can play an historic and natural role of keeping vegetation reduced, and the result of that will be systems that are sustainable and adapted to fire, as opposed to systems which have too much cellulose fiber, such that when fire does ignite, it has catastrophic effects.

Mr. SMITH. And maybe Chief Bosworth, if that gets down to you, also, give the committee an idea of where we have gone as far as timber harvesting on Federal forest lands over the last century.

Mr. BOSWORTH. Well, in terms of timber harvest, we restarted to increase the amount of timber harvested from the National Forest after World War II, and we reached a peak of probably about 12 billion board feet a year during the 1980's, and then began to reduce that amount to where we sell about 2 billion board feet a year now. A lot of that has to do with social values, what people wanted from the national forests. Every administration, both Democrat and Republican administrations with bipartisan support through those years, supported in some cases increased timber harvest for a variety of different reasons.

But today, we look at the forests in a little bit different way because social values and people's desires of the national forest have changed. But the main thing we are trying to do right now then is to try to have healthy forests, and again, I believe that in order to have that, we need to do active management, particularly in these dry pine forests, so that we can get fire back into those fire dependent ecosystems in a controlled manner.

Mr. SMITH. Can Mr. Roussopoulos give us a short response, Mr. Chairman, to the questions, and maybe Secretary Watson?

The CHAIRMAN. Please, without objection.

Mr. ROUSSOPOULOS. Thank you. I guess I would rise to the challenge of responding in an abstract way on this one. It seems to me it comes down to what people value from their forests, and that is central to the notion of sustainability. I believe the balance that you are seeking is the balance that will provide for the values that people want from their forests today and in a way that ensures that future generations can derive their values as well. Now, that implies some understanding of how these natural systems or systems affected by humankind will respond to the way that we manage them or don't manage them and how that translates itself into production of the values that people want from them. And it is going to be a different answer in every part of the country and in every social institution that you seek advice from.

Ms. WATSON. I would just add to that what everyone else has said. I think the role of science is an important one in achieving that balance. The USGS, the Fish and Wildlife Service, and the Department of Interior, together with the Bureau of Land Management, work together on these questions. We don't have all the answers, we will never have perfect knowledge, but I think we have improved knowledge over what we have had in the last 100 years to try and achieve a balance. And we can't go back to the time of Adam and the Garden of Eden and let nature work. We have to put our values as a society and what we want, and our values have changed over the last 30 years, what is important to us, and we need to manage our forests and rangelands to recognize those values, introduce national processes, but at the same time, recognize that the West has changed. People live now in the forest and natural fire would be unacceptable for some of the reasons that Representative Janklow laid out, health reasons.

The CHAIRMAN. I thank the gentleman. The gentleman from North Carolina, Mr. Ballance.

Mr. BALLANCE. Thank you, Mr. Chairman. We have a good bit of forest, private and public, in North Carolina. And it seems to me that management sounds good. In my mind, I think the public is interested in what is going to happen to the private logging and is this change going to mean a substantial increase in going into our forests and just cutting—whoever can help me out on that?

Mr. REY. Well, I will take a stab at that. Depending on where you are at and what the forests look like, making the forests healthier with regard to fire is inevitably going to result in some material being removed. Now, there are forests that are not in fire regions where fire is that frequent, and in those cases, you are probably not going to see a lot of that. But in the areas where we have frequent fires and we have stands of trees that are unnaturally dense, where we have thousands of trees per acre, where historically, there might have been like 20 or 30 trees per acre, there is only one way to get from a couple of thousand to 20 or 30, and that is to remove the ones that you need to remove in order to bring that area back into some semblance of balance so that fire can thereafter burn through those stands in a low intensity fashion that is not destructive.

So yes, while our primary objective is to improve the health of the forest, and the quality of the forest, and the integrity of the systems that we leave behind, this will mean, inevitably, some more material being taken off.

Mr. BALLANCE. Mr. Chairman, a follow-up. Is that where the rub comes in between those folks who may be opposed to this legislation and those who support it? I can't think that people—if you have unhealthy trees, that doesn't seem to be a problem. But if you have healthy trees, and they are sitting in the forest, and people want to go and look at them, and hug them, and then those trees get cut down, some people are going to be upset.

Mr. REY. That is where the rub comes in, and the difficulty is that it is not always apparent or always a matter of immediate agreement as to what is healthy and what is not. A stand of trees in an area that is characterized by frequent fires, that has small land that are densely packed trees, there are a couple thousand per

acre, may have trees that are green and healthy looking, but inevitably, they are going to become drought stressed because there are too many of them there, and as they become drought stressed, they will be more subject to insect infestations. That, in fact, is why we have fairly rapidly moving insect infestations in many parts of the South and the West. And as the insects work them over, they are going to be more susceptible to fire.

Mr. BALLANCE. One final question, I think, Mr. Chairman. Will this be one national policy, or can the folks in North Carolina, Doctor, look at our forests and have input and make some decisions on what North Carolina, or define what North Carolina values are on those trees?

Mr. REY. This will be a policy that will have to be driven by the local needs of the forest systems in question. The same approach isn't going to necessarily work in the southern Appalachians as will work in the Ponderosa Pine Forest of Arizona and New Mexico because they are different systems with different ecological needs. So it is going to have to be a locally based—even if we weren't trying to involve the local public to a greater degree in coming to some agreement on what needs to be done, which we are trying to do—but even if we weren't trying to do that, it would still have to be locally based because the same procedures, the same prescriptions, the same changes aren't going to be equally applicable across the country.

Mr. ROUSSOPOULOS. May I offer comment? I believe your district is in the coastal plain of North Carolina. Is that correct?

Mr. BALLANCE. Yes, eastern North Carolina.

Mr. ROUSSOPOULOS. Very little of the forest land within your district is in Federal ownership. It would almost all be in private ownership, largely, occupied by long leaf pine in the past century, and probably largely in loblolly pine today, I think characterizing Mr. Rey's description of much more densely stocked forests than would have been Savannah under the natural condition and much more susceptible to pine beetle attack than the natural ecosystem would have been. But unless my understanding is incorrect, the private land policies and practices would not be directly affected by this measure. Am I right on that?

Mr. REY. That is correct.

Mr. BALLANCE. Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman. The gentleman from Minnesota, the chairman of the Forestry Subcommittee, Mr. Gutknecht.

Mr. GUTKNECHT. Thank you, Mr. Chairman. In listening to some of the earlier discussion, I am reminded of the story that most of us know about the preacher who came out and visited the farmer, and it was a beautiful farm. And at the end of the little tour, the preacher turned to the farmer and he said, God has blessed you with a beautiful farm. And the farmer thought about that for a minute, and he said, well, yes, He has, but he said, you should have seen it when He had it all to himself.

It seems to me that that is where we come back to this. If you view the responsibility of we, the Federal Government and the people, to manage the forests, it seems to me that you come to the logical conclusion to use commonsense and go about this

I want to come back to some examples, because I think we haven't really talked about the problem. And let me ask Mr. Bosworth—I understand that the Forest Service manages 155 national forests, and each must complete a forest plan periodically. On average, how long does it take to complete one of these plans?

Mr. BOSWORTH. Well, in the past, it has been taking anywhere from 4 to about 10 years, probably averaging around 8 years and increasing, and that doesn't count the appeal and litigation process that we go through sometimes. So the problem is that it is taking us, by the time we have worked our way through, 8 to 10 years to do a 15-year forest plan to get it completed.

Mr. GUTKNECHT. And share with the committee why it takes so long. Now, I just want to know, for the benefit of the committee, we won World War II in less than 5 years.

Mr. BOSWORTH. I think President Kennedy said that he wanted to put somebody on the moon and return to the earth, and it took less time than it takes us to do a forest plan. I think the reason is the reason that was mentioned a little earlier, that Representative Janklow mentioned that it takes almost 700 or 800 different steps to make a decision through our processes these days. And we have done some fairly intensive evaluation of our decision making process through our forest plans as well as our projects, and it really is a number of processes that have added on over the years to try to assure that we are never going to make a mistake. And then also, to try to assure that we can win in an appeal or in litigation. So what happens is you get additional case law. It kind of raises the bar for the amount of analysis that we are going to do because you have a new decision in court, and then another one, and then another one, until finally, we have ended up stocking on so many things that it takes an extremely long time to get the job done.

Now, we have proposed some new regulations for planning that I believe would modernize the process. They are out in draft right now. We will be making some—evaluating the public comment, but the objective there is to get the timeframe back down to 2 or 3 years. My belief is that a member of the public, if somebody wants to be involved in forest planning process and decisions, you have to be a paid person in order to be able to sustain it over 10 years. So the person down the street who cares, who just wants to be involved, can't do it; not when it takes 7, 8, 9, 10 years to work your way through the process.

So we need to be able to involve people up front, do it in a short period of time, and then move forward to implement these forest plans.

Mr. GUTKNECHT. Can you talk a little bit about environmental impact statements? It is my understanding that you continue to do assessments even on plans which you probably are never going to implement, and that adds an enormous amount of bureaucratic red tape to all of this.

Mr. BOSWORTH. Well, our process, for any process we use for all projects, everything we do, and there is different degrees of analysis as well as documentation that we are required to do. Everything from what we call categorical exclusions, which exclude us—we are excluded from the requirement to document an environmental impact statement, we still do analysis, clear up to the more

complicated projects where we do environmental impact statements. And those are the ones that take the longest time, take the most work.

What we are trying to do is find—there are some projects that we do, that we do repetitively. We do them over and over again, and we evaluate and monitor, and we see that we are not having any significant effect on the environment. Well, after you have done some of those projects a few hundred times or a few thousand times, and find that you are not having any significant effect, it seems reasonable that you could lower the bar in terms of documentation, and that is where the categorical exclusions come in. So it is our effort to try to invoke more of these categorical exclusions for projects that we know through experiences and through monitoring they are not going to have significant effects, to reduce the amount of time and energy and cost for getting these projects done.

Mr. GUTKNECHT. But what we are really talking about is eliminating the possibility—well, not eliminating, but making it more difficult for people to just throw sand in the gears year after year after year to keep us from properly managing the forests. Isn't that what this is really all about?

Mr. BOSWORTH. Well, I think in part that is what it is about, but in part, it is to try to bring people together in a more collaborative way. In part, it is to get people to come together up front, to participate in the decisions and in the analysis. I mean, the best way to come to agreement is to get people out on the ground. The second way is to work in a conference room. And the last, the worst way, is to do it in a courtroom. We need to get more people out on the ground looking at the condition of the land, and try to come in a collaborative way to come to an agreement what the desired future is, and then discuss the ways to achieve that desired future. And we need to have processes that are incentives for working that way rather than distancing us, and that is what we are really trying to do.

Mr. GUTKNECHT. All right. Thank you.

The CHAIRMAN. I thank the gentleman. The gentleman from Hawaii, Mr. Case.

Mr. CASE. Thank you, Mr. Chair. I am afraid to my State probably ranks 50th among the States just in terms of timber management and these issues. Nonetheless, I guess that gives me complete objectivity in my questioning. Just some pure science questions. I think there was a picture there of the Bitterroot, as I recall, from 100 years ago versus recently, and the 100 years ago showed pretty open spaces under the trees. Was that because of the evolution of just natural processes from fire or had there already been in that situation controlled burns or any kind of intervention nationally?

Ms. WATSON. Well, I think that something that a lot of people don't remember is that man has been on this continent for a long time, and the Native Americans used fire as a management tool for game, for clearing areas for agriculture, and so I can't say in particular as to whether or not the Bitterroot had that influence, but I suspect it did because there were native peoples living in the Bitterroot. And also, the natural fires would have made the forest look like that. There has been a lot of research on the history of fire that has been done by some scientists and have demonstrated that

fire, both introduced by man and natural, made the forest patchy and open, sunlight for grasses.

Mr. CASE. I guess I think where I am trying to get to is I think that an observation, the people who are skeptical of the bill seem to acknowledge that there is a need in the urban interface, perhaps, for streamlined procedures to allow for culling out the undergrowth. But the fear is that the initiative goes too far to the other direction in, essentially, exempting these processes from legitimate environment controls and converting the use of the forest through a purely economic perspective.

I think where I am trying to go is if we were to just say that we were narrowing this down to the urban interface, and that we were going to provide the exemptions in the bill, and the Stewardship Contracting, and the rest of the tools that you want, what percentage of the overall forests would we be talking about, just overall? How much of the problem is immediate to where we live comes into contact with where these forests are and how much is kind of beyond that pail and should be left to perhaps the natural processes?

Ms. WATSON. I guess I would like to address the predicate of your question before I address the percentage, and that is that the problem is only around the wildland-urban interface. This isn't just a problem of people and their property. It is a problem of disease, for example, and insects. You look at the statistics. I talked about how it grew from 100 acres to 350,000 acres infested by insects in less than a year. Treating around the wildland-urban interface won't address insect infestation.

Mr. CASE. But from a science perspective, I guess, isn't the natural evolution, the natural course of things, just allowing fires to take place, isn't that a form of insect control in the forest?

Ms. WATSON. I think that is a pretty harsh system of control. Again, given the modern force that we live in, people now live in these forests. People that live there are susceptible to lung impacts. People have homes in the forest and the other thing to think about is in the West, our water supplies come from the national forests and from public lands. If we only treated in the wildland-urban interface, we wouldn't address the fire and the sediment impacts that happen to the municipal water supplies that are far distant from the wildland-urban interface.

Mr. CASE. But I guess by that measure, we should, basically, allow—I mean, you talk in your testimony, it is very nice testimony, about kind of priorities, you now, we are going to work our way into this, and of course, we want to take care of the urban interface first, and we have got some concerns with the insect control, which I grant you are legitimate. And in order to accomplish this, we want, essentially, expanded authority to waive some of the environmental controls and to allow for private utilization of the undergrowth or the resources, cull it out, take some of the valuable timber to help pay for that. And I guess by your—and the dilemma here policy-wise is that makes a lot of sense in the urban interface. But by your argument, that would really apply to, really, anyone of our forests because, as you say, there is going to be some interaction with people no matter where we are. So is there any kind of dividing line where we can say here we are just going to let nat-

ural processes run their course, which is a part of the scientific debate that other people hold to, but here we have no choice but to control it around towns in southern California or wherever they might be?

Ms. WATSON. Yes, and I think there is a dividing line. First, the National Fire Plan and direction from Congress has focused our efforts in the wildland-urban interface. We have been given direction to spend 60 percent of the dollars that you have given us on wildland-urban interface, so that is a direction that we are continuing forward with. The second thing is that the use of wildland fire is integral to how we are addressing this problem, and that is referred to as natural fie. There are areas where we will use wildland fire and the form of prescribed fire to burn and take its natural course, clearly, in areas like wilderness areas; national parks have frequently used that tool. So yes, there are dividing lines.

Number 1, Our focus will always be on saving lives. That will be our prime focus. I would just conclude by saying that we are not asking to waive any environmental laws. All environmental laws are going to be complied with. What we are asking is to use some of the tools that the National Environmental Policy Act already gives us to expedite processes. But we are not proposing to waive the Endangered Species Act, or the Clean Water Act, or the Clean Air Act, so that will conclude my answer.

Mr. CASE. I just think that probably needs to be a little more clear, because in the under-rumblings of people that have some form of dissatisfaction with the proposal, if there are those kind of misconceptions, they definitely have to be cleared up.

Mr. BOSWORTH. Could I just add one thing to the discussion here? An awful lot of these fires, these catastrophic fires that we saw in the year 2000 and 2002, started back outside the wildland-urban interface and burned to the communities. We also have situations where the watersheds have been, the municipal watersheds, have be been affected. It would be outside the so called wildland-urban interface, but when you look at the Heyman fire outside of Denver, a good portion of that is outside of what a lot of people define as a wildland-urban interface, but it is in that municipal watershed and it is going to cost a huge amount of money to clean up that watershed that produces an awful lot of the water for the city of Denver.

The CHAIRMAN. Thank you. The gentleman's time has expired. The gentleman from South Dakota.

Mr. JANKLOW. Thank you, Mr. Chairman. If I could, Mr. Rey, you talked—I believe it was you that talked about the fires in Quebec affecting Washington, DC's opacity level, visual level. How far is Quebec from here?

Mr. REY. Over 1,000 miles, in any case.

Mr. JANKLOW. And these fires that burn in the West, that start in Idaho, Utah, California, Oregon, Washington, et cetera, the prevailing winds blow west to east, generally. What is your experience as to how far it takes particulates and really affects the air quality, for how great a distance when these huge configurations are going?

Mr. REY. Last year, our fires in the southwest had some visibility effects in Dallas, Fort Worth, and Houston. And in 2000, the city of Chicago was affected by the fires.

Mr. JANKLOW. Sir, given the nature of the condition these forests are in, in the West, and I am only familiar with the West. I am not familiar with other forests. I don't know them on the east coast, Hawaii, elsewhere. Would just an urban interface aspect solve the problem with respect to air quality, water quality, safety to human beings, safety to endangered species, and those types of things?

Mr. REY. No. The best dividing line about whether to treat a forest or not is not whether it is in the wildland-urban interface, but rather, whether the forest is in a condition that makes it susceptible to the kind of fire that is going to have the sort of air quality effects that we are talking about, or the water quality effects that we have observed, or the impacts on threatened or endangered species. That is the dividing line.

Mr. JANKLOW. Mr. Bosworth, are you familiar with that Illinois court decision by the Federal District Court years ago that involved CEQ? Are any of you folks familiar with that decision?

Mr. BOSWORTH. That would be the *Hartwood* decision?

Mr. JANKLOW. Yes. Now, as I understood it, how large is that national forest down there in Illinois? Do you know?

Mr. BOSWORTH. Shawnee National Forest, it is a relatively small national forest. I don't know the number of acres. My guess would be less than 500,000.

Mr. JANKLOW. Now, as I understand it, tell me if I am incorrect, we have a national forest in Illinois, a small one, a relatively small one at least as forests in the West go, and a lawsuit was filed against the EQ regulations. A single Federal Judge ruled the CEQ regulations illegal and a decision was made by the then administration not to appeal that decision to the Court of Appeals, and ultimately, the Supreme Court. And once the time for appeal ran, and by the way, the Federal Judge in that case made his decision binding nationwide. So didn't we end up with a decision where a single Federal Judge, basically, on a reg lawsuit where no appeal was filed at the appellate level or higher, ended up making a decision nationwide as to what the law was or wasn't for this country with respect to aspects of the regulations of the Agriculture Department? Have I got that about right?

Mr. REY. That is essentially correct.

Mr. JANKLOW. Some people say some of this stuff is laughable. Is there a way that we could adjust the statute so that we could let people vote in areas, and those that think it is laughable can leave their forests like they are, and those of us that don't think it is laughable, we can have our forests worked on so our people's homes quite burning, and our babies lungs can develop a little better, and our people with emphysema don't die earlier, and our water quality that we drink is better, and we don't have as many carcinogens in the water as the water mixes with these ashes after a fire. Is there a way we could separate these out in a practical way in the legislation?

Mr. REY. I doubt it. And of course, this is a question that, with all due respect, you are better equipped to answer than I am. But historically, we have not passed laws that applied differentially to the individual national forests.

Mr. JANKLOW. Right. Let me, if I can, ask you this. Mr. Bosworth, have you been a firefighter in the past?

Mr. BOSWORTH. Yes, I have. I started when I was 17 on a fire crew.

Mr. JANKLOW. And you are familiar with, I think you showed there, or somebody explained how fires can spot forwards. Isn't that correct?

Mr. BOSWORTH. Somebody was talking about that, but the fires during these very difficult fire seasons——

Mr. JANKLOW. Where you have a forest fire raging in a forest, towering inferno, high plume, what is your experience as to how far forward that fire can spot to endanger other property, and more importantly, to endanger firefighters and people trying to deal with the fire?

Mr. BOSWORTH. Well, let me say first, since we are talking about from my experience, my experience at throwing dirt and being out on the fire line goes back a few years, and we saw nothing in those days like what our firefighters are faced with today because of the buildup of fuels. And so while I have been out observing fires in the more recent years, they are much—they move further, faster, and they are much more intense than the ones that I was out on the fire line dealing with.

Mr. JANKLOW. Can I ask one more question?

Mr. BOSWORTH. I would like to get some better information, specifically. I know of half-a-mile, mile, and maybe farther out where fire spots, depending upon the wind conditions, the fuel conditions, and whatnot.

Mr. JANKLOW. Let me ask you one more question, sir, with permission. You are familiar with the Jasper fire that was in the Black Hills?

Mr. BOSWORTH. That is correct, yes.

Mr. JANKLOW. Am I correct that that fire, given the climatic conditions, the nature of the forest, and that fire, it moved approximately 10 miles in 1 day?

Mr. BOSWORTH. I believe that is right, yes.

Mr. JANKLOW. No further questions. Thank you.

Mr. GUTKNECHT [presiding]. We have approximately 10 minutes remaining before the vote and I am going to yield to the gentleman from California, Mr. Thompson. It is his turn to ask questions.

Mr. THOMPSON. Thank you, Mr. Chairman.

Mr. GUTKNECHT. We are going to have to recess and move quickly to get over to vote on the rule.

Mr. THOMPSON. Thank you, Mr. Chairman. I have a number of questions. I can't ask them in the 5-minute time, but I would like to get through some of them and submit the other for a written response if I could. And I am very concerned that people up in my part of California and up into Oregon are equally as concerned about how this legislation would impact fisheries. And specifically, sedimentation in the rivers, and any areas where there is going to be additional roads constructed, how this will provide for fish friendly road construction. And I think I am safe in saying, as it is written now, it doesn't. So I guess I would be more interested in hearing how you would propose that we could amend that to address those concerns.

Mr. REY. Neither of the administrative initiatives that we have proposed nor the provisions of the bill that has been introduced

would allow any expedited procedures to be used in a project that involves new road construction. So the issue of constructing new roads is off the table as far as these initiatives are concerned.

Mr. THOMPSON. In the areas that don't allow that now?

Mr. REY. Correct.

Mr. THOMPSON. But in the areas where there would be, would you be amenable to provide in some protection to make sure that these are, for lack of a better term, fish friendly?

Mr. REY. We are engaged, both of our departments are engaged in a long-term effort to look at our existing roads and to right-size the culvert so that we have better fish passage.

Mr. THOMPSON. And you would be willing to work with me and the——

Mr. REY. Absolutely.

Mr. THOMPSON [continuing]. In the bill to craft that amendment? And then I am concerned about the thinning that would take place along the watershed. It seems to me that we could put in some sort of—and there is precedent for doing this in other areas—put in some sort of buffer zones around the 1's, 2's, and 3 class streams that would prevent any type of sedimentation problems or any upslope problems that would add to the sedimentation of the fish concerns, and I would be interested in hearing if you would be willing to work on that, also.

Mr. REY. I think what we would like to do is to sit down with you and talk about how these projects are laid out, and then we can evaluate whether the projects are a risk for sedimentation or whether inaction is a bigger risk.

Mr. THOMPSON. So we will be able to see a forest by forest look at how this plan would come into play?

Mr. REY. Sure. I think we can sit down with you on your forest, in particular, and walk through some projects.

Mr. THOMPSON. The other area where I had concern is there seems to be some disparity between the biomass title and the watershed forestry assistance title, where the latter allows for, or I guess engages more public input in regard to this area, and it seems to me that we should have the same thing for the biomassing component as well.

Mr. REY. I think that the biomass title is more or less value neutral in terms of public participation. It is more of an authorization to give, for us, if money is appropriated to make some biomass grants, but certainly, in the course of undertaking that authority, we would follow normal public involvement, public participation procedures, or we could look at the other title and see whether there is something we want to draw from it. That certainly would be——

Mr. THOMPSON. It just seems to me that it is in everybody's interest to engage the public as much as possible.

Mr. REY. Absolutely.

Mr. THOMPSON. And clean water is very important. Don't take this the wrong way, but the biomass stuff and the thinning aspect of the bill is equally as important to large components of the public. I think we should bring them in. And I want to just touch on something that Mr. Case had mentioned about the urban interface and the watershed stuff. It seems to me that you can achieve both—ad-

dress both his concerns and achieve your goals if you want to reduce fire protection and you want to reduce the ramification of burning forests in regard to health, that you can achieve that in areas that are important to watershed areas and the urban interface areas so you still get the cleaner air, you do the fire protection, plus you protect more of the public, plus you protect the public's water sources. And it would seem to me that that would be a priority over other areas. And just to say that we are here to thin the forest, to make the air cleaner, and reduce fire value, you can do the same thing in areas that would have a second bang for your back, and I think that should be somehow prioritized.

Mr. REY. We have been expressed throughout in identifying the wildland-urban interface as a priority, but we have also been equally expressed in saying that there are important ecological values that occur outside the wildland-urban interface that justify treatments there as well.

Mr. THOMPSON. I appreciate it. I will submit the other questions that I have, and will you get in touch with me, Secretary Rey so we could work this stuff out?

Mr. REY. Yes.

Mr. THOMPSON. Thank you very much.

Mr. GUTKNECHT. Well, the gentleman's time has expired and there may be some other questions that Members would like to submit, but I will formally release this panel. We will come to the next panel when we come back from the vote. The committee stands in recess for approximately 20 minutes.

[Recess]

The CHAIRMAN. The committee will reconvene

We would now like to welcome our second and final panel. Mr. Steven Koehn, State forester of Maryland, on behalf of the National Association of State Foresters of Annapolis, MD; Dr. John Helms, professor emeritus of forest science of the University of California Berkeley, representing the Society of American Foresters; Mr. James Walls, executive Ddrector of Lake County Resources Initiative in partnership with Sustainable Northwest, he is from Lake County, OR; and Mr. Jeff Hardesty, U.S. director of Global Fire Initiative for the Nature Conservancy of Gainesville, FL.

Mr. Koehn, we welcome you and remind all of the panelists that their entire statement will be made a part of the record and we would ask you to limit your comments to 5 minutes. Starting with Mr. Koehn, welcome.

STATEMENT OF STEVEN W. KOEHN, STATE FORESTER, STATE OF MARYLAND, CHAIRMAN, WATER RESOURCES COMMITTEE, NATIONAL ASSOCIATION OF STATE FORESTERS, ANNAPOLIS, MD

Mr. KOEHN. Thank you. Good morning, Mr. Chairman, members of the committee. My name is Steve Koehn, and on behalf of the National Association of State Foresters, I am pleased to testify in support of the President's Healthy Forest Initiative. I am representing NASF in my role as chairman of the Resource Committee, and we strongly believe that the concepts of healthy forests and healthy watersheds are intertwined.

NASF has been deeply involved in development and now implementation of the National Fire Plan. We support the recent administrative efforts to facilitate implementation of the 10-year strategy and we support legislative efforts that are consistent with the 10-year strategy and implementation plan. We believe that the Healthy Forest Restoration Act introduced by you, Mr. Chairman, and members of the committee, support these efforts.

State foresters recognize the urgency of reducing hazards to communities at risk of catastrophic fire. We must address hazards within the wildland-urban interface, but we must also look at the larger landscape and address the forest health and watershed issues on all ownerships.

NASF recommends including the Watershed Forestry Assistance Program in any Healthy Forest legislation. Because of my long involvement with the Chesapeake Bay restoration effort, I am particularly supportive of this program. It was considered last year as part of the farm bill, where it received bipartisan support in the Senate. The Watershed Forestry Assistance Program brings a national emphasis to the Healthy Forest Initiative.

Although ownership patterns and local conditions differ greatly between regions, the protection and management of watersheds for the production of clean water is of critical importance everywhere. In the eastern United States, where I live and work, this is particularly true since 90 percent of the forest land is privately owned. The private forests of the Northeast and Southeast, together, produce two-thirds of the water we need for recreation and for fish and wildlife habitat. They also provide the drinking water supply for millions of Americans in the East. In addition to environmental benefits, these same private ownerships produce 50 percent of the Nation's wood and paper products.

The health of eastern forests is threatened by invasive pests and exotic species, uncontrolled fire, overstocking, poor regeneration, and land use fragmentation. The conservation, restoration, and stewardship of healthy private forest land is viewed as crucial to watershed health in the United States.

In the West, the Watershed Forestry Assistance Program is no less important. For example, it can provide assistance to landowners for the rehabilitation and restoration of burned watersheds to limit soil erosion and benefit community drinking water supplies.

NASF also supports forest biomass utilization as a tool to help reduce unnaturally dense fuels and the risks to communities and watersheds. Using forest biomass could be an effective way to reduce the cost of treating hazardous fuels. Using noncommercial wood products can bring environmental benefits, including renewable energy, lower risk of fire, and reduced carbon emissions.

Enhancing research programs to address forest pests will also help carry out the Healthy Forest Initiatives on all lands. Providing additional assistance to implementing pest management strategies would be helpful for all landowners while serving the public interest.

For example, Maryland has been dealing with hemlock wooly adelgid for several years now. If left unchecked, naturally occurring stands of hemlock, which are important in helping to maintain cold

water fisheries, will be impacted with the same detrimental effects seen in adjacent mid-Atlantic States. Many other forest pests significantly impact our Nation's forests, from the southern pine beetle to the non-native emerald ash borer in the Midwest, to sudden oak death in the West, just to name a few. Accelerating the work to address these and other forest pests is critical to improving the health of our Nation's forests.

Legislation that will enhance the ability of the public and private land managers to improve forest health and provide for healthy watersheds will benefit both the public and the environment.

On behalf of the National Association of State Foresters, I urge the committee to include all of the above programs in legislation to carry out the President's Healthy Forests Initiative. In particular, the Watershed Forestry Assistance Program will provide benefits nationwide. The improvement of watershed conditions on private forestlands will complement the other goals of the Healthy Forest Initiative by enhancing water quality generated from our Nation's forestlands.

Our abundant and magnificent forests helped to build our great Nation. Wise and sustainable forest policy will help to assure its continued strength.

I would like to thank the committee for the opportunity to testify today and I would be happy to answer any questions.

[The prepared statement of Mr. Koehn appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Mr. Koehn. Dr. Helms, welcome. We are glad to have your testimony as well.

STATEMENT OF JOHN A. HELMS, PROFESSOR EMERITUS OF FOREST SCIENCE, UNIVERSITY OF CALIFORNIA BERKELEY, SOCIETY OF AMERICAN FORESTERS, BERKELEY, CA

Mr. HELMS. Mr. Chairman, members of the committee, my name is John Helms and I am professor emeritus of forest science at the University of California, Berkeley. I am here today representing the Society of American Foresters. The Society has about 17,000 members dedicated to advancing science, technology, education, and the practice of forestry in the United States for the benefit of society at large. One of our core values is sustaining forest resources by simultaneously meeting environmental, economic, and societal goals and constraints, and I am very pleased to have this opportunity to testify on this important topic of forest health.

Now, I would like to address 8 points. The first one is that forest health is very difficult to define. The concept is imprecise, it is value laden, and it is very controversial. And there are at least 18 different definitions of forest health in the literature. The Society of American Foresters holds the view that forest health is a perceived condition, involving consideration of many ecosystem components.

Consideration of forest health also involves what constitutes a forest. More precisely, we should decide whether we are really concerned about the health of trees, the health of stands, or the health of forests. And this is we need to decide the spatial scale over which health is being considered. For example, an individual tree

or a stand of trees could be deemed unhealthy, but the forest as a whole could be viewed as healthy.

And similarly, and equally importantly, we have to consider the temporal aspects, whether health is being considered at one point in time, over a period of decades, or over centuries. For example, following a windstorm or following insect attack, a particular forest may be perceived as unhealthy, however, a decade or two later it could regain the attributes of health. And basically, tree health, stand health, or forest health, in a similar fashion to the consideration of the health of human individuals, or human communities, or human regions, is basically a function of the resilience to withstand stress or the capacity to recover from disturbance.

The second point is that forestland in the United States is owned by a mix of Federal, State, industrial, family, tribal, and trust institutions. And each of these owners has different objectives and responsibilities for land management, and therefore, their forests have different structural attributes. And consequently, forest health issues commonly differ among ownerships and require individual professional analyses and prescription.

Third, forest health is a very complex concept and it is interpreted differently by different people, depending upon their viewpoint. It is, therefore, imperative to agree on which definition or which interpretation is to be used before one can conduct meaningful discussion or even craft satisfactory legislation.

The fourth point, of all the characteristics of forest condition, the dominant factor determining vigor is stand density or the number of trees per unit area. In dense, unmanaged stands, or as the result of fire exclusion policies, trees are often very close together, have small crowns and very small root systems. And consequently, these stands are very low in vigor, are susceptible to drought, insects, disease, and catastrophic fire.

The fifth point is that natural stand development from regeneration to maturity includes a period that is commonly many decades or a century, depending upon site quality, that is characterized by high, natural tree mortality and a reduction in the number of trees from many thousands to less than a hundred. This is a high risk period. In modern times, when our forests are fragmented, contain dependent rural communities and other assets, and have intrinsic values for wildlife, aesthetics, and recreation, it is not acceptable to allow them to remain in an unhealthy overstocked and high risk condition.

Sixth, it has been demonstrated that prudent forest management and stewardship can lower the risk of unacceptable loss of property through judicious thinning and prescribed burning. A healthy forest is a sustainable forest.

Seventh, prudent forest management leading to healthy, sustainable forests requires investment in research and monitoring, and increased research effort is critically needed to obtain a new knowledge on how to develop and maintain healthy forests.

And finally, there are certain actions that we believe Congress and the administration can take to give forest managers the tools to improve conditions on national forests and private lands while maintaining both environmental protection and public participation. Many of the laws that apply to Federal forest management

are outdated and need revision to ensure consistency with court decisions and other factors. Changes are also needed in a number of regulatory measures that often cause unnecessary delays to time sensitive management projects. And we are encouraged by the efforts made through the 2002 farm bill, Healthy Forest Initiative, and other mechanisms. However, a long-term solution that would change both regulations and laws is needed on both public and private lands, and the Society of American Foresters will continue to offer support among these concerns.

So Mr. Chairman, this concludes my testimony. I thank you for the opportunity to appear.

[The prepared statement of Mr. Helms appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Dr. Helms. And now we have Mr. James Walls. Mr. Walls, I want to welcome you, also, on behalf of your own Congressman, Greg Walden, who is no longer a member of this committee but is vitally interested in the subject matter. So we are glad to have you with us.

STATEMENT OF JAMES K. WALLS, EXECUTIVE DIRECTOR, LAKE COUNTY RESOURCES INITIATIVE, IN PARTNERSHIP WITH SUSTAINABLE NORTHWEST, LAKE COUNTY, OR

Mr. WALLS. Thank you, Mr. Chairman and fellow committee members. I am from Lakeview, OR, Lakeview County, much like John Day that the chairman talked about earlier today, a very small community in Oregon, where 75 percent of our lands are Federal lands, and that is made up, primarily, of the Forest Service and BLM. Our forests are comprised of ponderosa pine, lodgepole pine, white fir at he higher elevations, and juniper. At one time we supported five mills in the county, and now we are down to one.

Through fire suppression and high grading of ponderosa pine, we have created a dense, disease susceptible, highly fire prone forest. In a study we just completed with the University of Washington, we found that the Fremont National Forest is 63 percent in the high to moderate fire hazard category. We growth model projections out 30 years and the moderate climbs very rapidly to the high, creating even more disastrous conditions in the future.

The tool we utilized in doing this is a state-of-art tool, done by Yale University, University of Washington, and Pacific Northwest Research Station, Landscape Management System, LMS. It allows us to plan a forest for ecological and economic objectives over 100 plus years. We did simulations of what it would take to remove that fire threat and thin it down. We found that we couldn't just take real small diameter material, 9 inch or less, or even just 12 inch and greater material. It takes a combination of both small and some large to open up that canopy to really reduce the fire threat and make a more natural condition.

As we looked at this and what we want to do, what would it take to accomplish this goal over 20 years. We found that it would create 150 to 250 direct jobs in Lake County and twice as many indirect jobs. That is substantial when you consider our workforce is only 3,300 people. It would mean removing approximately 250,000 to 350,000 tons of biomass per year. We can do this, and what we also showed in this simulation, we can do this while we restore our

forest to more natural fire regimes, more natural species and structure characteristics that we would have found common 100 years ago, and thus, we feel creating a win-win for the environment and the economy.

But when you consider the size of material off these dense stands that have accumulated over the past 50 years and the volume to get them more back to natural conditions, what are you going to use that material for? We believe, depending on the size of the community, a small 5 to 25 megawatt power plants are definitely a part of that solution. The problem is that these plants need approximately 6 cents a kilowatt hour to break even and current prices don't substantiate that. Unlike large power plants, the smaller plants do not have the cash flow to operate under these low market conditions. It needs sometimes subsidy to make it work.

In the farm bill you have looked at 10 tons and it didn't pass, now there is 20 tons. I do caution you when you look at this to look at biomass, not just a subsidy to that one, because that could be a favor against other industries, but to look at the subsidy to remove thinnings and not just a particular industry. Another thing we might want to look at is green energy credits are a premium on that at the price of 5 to 6 cents. Or possibly, the emerging carbon market that has already reached $4 billion internationally this year with projections to $10 billion in the future.

The problem we have in our county is the Forest Service is spending the funds on fires and very little on thinning. On the Fremont-Winema National Forest, we have over 20,000 acres of thinnings NEPA approved and on the shelf and no money to thin them. In thinning, when you look at small diameter, it may cost you $345, but let us look at what the cost of doing nothing is. In Washington and Oregon we looked at fires from 1992 to 2002; the cost of fighting fires ranged from $271 an acre to $564 an acre, and the loss of timber value ranged from $978 to $2,022 an acre. This does not include regeneration costs, lost property costs, loss of life, and other associated costs.

Considering all these costs, investments in thinnings and reducing fuel loads is wise, both economically and environmentally. Considering cheaper treatments versus watching the West being devastated by catastrophic fires is a good investment. Lake County has one person per square mile, a population of 750. We just finished fire refresher training for private contractors and their employees; over 145 attended. I find it sad that firefighting is becoming our largest industry, and I can tell you that is not sustainable forestry.

What I have briefly brought to you today is a way that we can boost our economy, create jobs, improve forest health, and just plain do the right thing for our families, our communities, and our forests, and I thank you for your time.

[The prepared statement of Mr. Walls appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Mr. Walls. And now I would also like to welcome Mr. Jeffrey Hardesty. Mr. Hardesty.

STATEMENT OF JEFFREY HARDESTY, U.S. DIRECTOR, GLOBAL FIRE INITIATIVE, THE NATURE CONSERVANCY, GAINESVILLE, FL

Mr. HARDESTY. Mr. Chairman and members of the committee, thanks for the opportunity to provide testimony today. I am the U.S. director of the Nature Conservancy's Global Fire Initiative. I have worked in a variety of capacities for the Conservancy for 11-plus years, including collaborating with a diversity of partners to restore damaged ecosystems across the United States.

A little personal anecdote. In my family, fire has both personal and professional implications. My great-great grandfather and great uncle died while fighting the big Idaho fires in 1910 that Gifford Pinchot used as leverage to create the National Forest Service. My father fought wildfires in Oregon and Idaho for the CCC's during the Great Depression. So with a bit of irony, it would seem I have spent the last 11 years of my career promoting fire across the United States.

The Nature Conservancy is dedicated to protecting the diversity of life on Earth. The Conservancy has more than 1 million individual members and over 1,900 corporate sponsors. We currently have programs in all 50 States and 30 nations, and to date, we have protected more than 160 million acres around the world. The Conservancy itself owns and manages some 1,400 preserves in this country. Our conservation work is grounded in sound science, strong partnerships with other landowners, and tangible results at local places.

For thousands of years, fires played a vital role in shaping North American ecosystems. Nearly all terrestrial and many wetland systems experience fire at some interval, and many include plants and animals adapted to or dependent on fire. When key attributes of a fire-adapted ecosystem are altered, for example, by fire exclusion, fires will burn unnaturally, resulting in long-term damage to ecosystems and sometimes to human communities.

In the United States, altered fire regimes are the result of more than 100 years of fire suppression, often coupled with incompatible forestry and grazing. We will not fix that problem overnight. Years of active restoration, adaptive management research, and citizen involvement will be required to protect human communities while also restoring ecosystem health. It is imperative that we commit to learning from both our successes and our missteps so as not to repeat the mistakes of the past.

The Nature Conservancy has identified more than 107 million acres of critical lands where altered fire regimes are seriously threatening biodiversity. The problem is particularly acute in areas where natural fires would occur frequently in a low intensity, such as ponderosa pine in the West or longleaf pine in the south. The trend in such areas is toward fires of increasing intensity and severity that threaten ecosystem health as well as life and property, especially, now in the wildland-urban interface.

For the past 40 years, the Nature Conservancy has engaged in a wide variety of ecological management activities, including managing thousands of prescribed fires to restore ecosystem health at hundreds of sites across the United States. In doing this, we have developed a conservation framework that relies on adaptive man-

agement, including working from a landscape scale perspective, working collaboratively with communities, setting measurable ecological goals and desired future conditions, monitoring to ensure that those goals are being met, and when they are not, adapting practices as necessary.

So based on this on-the-ground experience, we have these five recommendations. First, the agency should prioritize hazardous fuel reduction projects within the wildland-urban interface and water supply areas. These areas should be narrowly defined, however. Although projects will be selected based on public safety, they also can provide important lessons for managing larger landscapes.

Second, the agency should carry out a small number of fuel reduction demonstration projects beyond the wildland-urban interface. These areas should be selected based on the need for ecological restoration and their value in demonstrating how agencies, communities, and scientists can work cooperatively in planning and implementing fuel reduction on a landscape scale. Expedited approval practices are not necessary or appropriate in these areas.

Third, in all of these projects, agencies must use adaptive management so that it can learn from our actions to inform and then guide future efforts. At a minimum, adaptive management must include clear ecological objectives and thoughtful cost-efficient monitoring of results.

Fourth, Congress needs to devote significantly more resources to appropriate treatment and restoration of altered fire regimes. The more that funds are diverted for suppression, the higher the long-term cost ecologically and financially.

Finally, Congress should consider some form of subsidy to develop facilities to utilize small diameter biomass. In the long run, the absence of markets for millions of tons of small diameter trees that currently have little economic value will be a major barrier to restoration of larger landscapes. Where thinning is ecologically, scientifically, and socially desirable in concept, we support offsetting the cost of services of marketable byproducts of restoration, especially, where these activities support small businesses and local job creation.

Mr. Chairman and members of the committee, thank you for the opportunity to share our views.

[The prepared statement of Mr. Hardesty appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Mr. Hardesty, and I thank all the members of the panel for very helpful presentations. I promised the gentleman from Georgia that I would yield to him first since he did not get to participate in the first round, and I am doing so now. The gentleman from Georgia.

Mr. BURNS. Thank you, Mr. Chairman. First of all, I appreciate the committee, and appreciate the opportunity to be here and understand more fully the issues that we are dealing with our national forest. I have the eastern part of Georgia. We have the Chattahoochee National Forest. We have the whole northern end of our State that connects up to the Appalachians, and we have a huge forest industry in Georgia.

I have received a number of calls saying they are concerned about this initiative, the Healthy Forest Initiative. How would you

respond to constituents who say we should leave the environment in its natural state, and let nature take its course, and not provide intervention measures? Dr. Helms.

Mr. HELMS. Well, the current forest structure is quite different from the way it was before Europeans or even Native American Indians have been interacting with that forest, and the current situation today is that our forests are very fragmented, and we have communities and assets distributed right in amongst the forest. And the forest will take care of itself in a natural condition given time, which might amount to decades or even long. But this is a very high risk period, and I think if we take the attitude that you suggest, we would be subjecting communities to this uncertainty and high hazard condition for an extremely long period of time, and I don't think that is tenable. On that basis, we need to be able to reduce stocking levels to make these stands more healthy and not so risk to fire.

Mr. BURNS. Mr. Koehn.

Mr. KOEHN. Yes. The landscape that we are talking about have millions of people in it now as opposed to what occurred or what was there prior to colonization of the North American continent. So we have lots of people in the landscape, lots of infrastructure in the landscape, interactions with people and the resource tend to be problematic in terms of fire starts, and we have a lot of improvements that are at risk. I believe that if we take the more or less do nothing approach, or mother nature will take care of itself, it is akin to wishing to go back to buckskins and knives, and I don't think we have the ability to do that here, especially, in the populated east. And with a heavy dose of forest product industry operations, and I am familiar with a little bit of eastern Georgia, having spent some time there right after college. Most of your pine stands are heavily managed. There are pine plantations. In some cases they are posing a significant risk to fire, and they also harbor things like southern pine beetle and other things. So I think that the do nothing option in a lot of cases with a heavily populated landscape is really not an option.

Mr. BURNS. We have a huge manifestation in the southern pine beetle in our region and we are suffering because of that. Would you categorize our forest now as natural growth forest? Are they planted, managed forests as far as the dominance is concerned? The majority of the forests that we see out there right now, how would you classify those?

Mr. HELMS. I would make a comment that before answering that question, I would want to make it clear that the forests of the United States are owned by a very, very diverse array of owners. And as I mentioned in my testimony, that the structural attributes of these forests vary depending upon whether the forests are owned or managed by public agencies, or State agencies, or private individuals, or industrial groups. So it would be very difficult to make a general statement that would cover all of these conditions.

Mr. BURNS. Private landowners tend to be more oriented toward reforestation practices? Is the Federal forest more natural growth, natural regeneration, or do you see that as an issue? Mr. Walls.

Mr. WALLS. Thank you. The Federal forests in my area are unmanaged, but not more natural, because when we did log, right

or wrong, we high graded the big ponderosa pine out of it and then we prevented fires. And the growth that we see, if you look at the old pictures in the 1940's and stuff, you will see cars driving through the Ponderosa Savannah Forest. It was very open. That is how they got wagon trains through into this country, through the trails. Now it is dense, dense stuff, and that is not a natural condition. And by the fact that we prevent fires, I would even call it maybe a managed situation, but it is unmanaged.

Mr. BURNS. When I was growing up, it was traditional to, as we used to say, burn the woods, and that was a common practice. It would happen every year, every other year, and then over the last probably 30 to 50 years, we have ceased that practice, and so we do have that dense undergrowth. We do have—mercifully, in the South, we don't see the size fires and the major devastation that you see out west that Mr. Janklow and others in the western States see, but we still have the manifestation of disease, and insects, and those things that challenge us in our forestry management practices. Certainly, I think we all have the same objective, and that is to make our forest more viable and more healthy. I get no more joy than spending my time in the Chattahoochee National Forest, but I am concerned that that forest must be protected and effectively utilized for the public good. Thank you.

The CHAIRMAN. I thank the gentleman, and I recognize the gentleman from Minnesota, Mr. Gutknecht.

Mr. GUTKNECHT. Thank you, Mr. Chairman. I want to thank the witnesses for testifying, and I apologize that our membership is not as dense as it perhaps should be, but there are a lot of meetings going on and we do appreciate your coming here today. I want to talk to Mr. Hardesty for just a few minutes and get a few more examples because I have been an admirer of the work that the Nature Conservancy does.

Mr. HARDESTY. Thank you.

Mr. GUTKNECHT. I don't always agree with everything they do, but I know in Minnesota that they have been very helpful in helping to acquire land and protect lands and forests. But I want to come back to something that I am not sure we are in agreement here. In your management recommendations, I didn't exactly hear you say that you thought it was a good idea to thin these forests.

Mr. HARDESTY. I think the reason I didn't say that is because what I did say was that management should be based on clearly stated scientifically credible ecological objectives.

The Nature Conservancy would say if the outcome of that is thinning, then we would support that. For example, on some of our own properties, we have actively thinned as an initial step in reestablishing fire regimes. However, I will say that, again, thinning has to be based on ecological objectives both at the landscape scale and at the project or stand scale. One size doesn't fit all when we talk about thinning.

Mr. GUTKNECHT. Are any of you familiar with the situation we have up in northern Minnesota, up around the Boundary Waters Canoe area where we had a terrible blow down a few years ago? I mean, we are very concerned that sooner or later—I mean, it is not a matter of whether, it is a matter of when we are going to have an enormous fire event in northern Minnesota. Are any of you

familiar with that? Can you talk about it and any recommendations you might have?

Mr. KOEHN. Well, the only familiarity I have with it is talking with my colleague from Minnesota State Forestry in Minnesota, and you are right. There has been thousands of acres of the northern portion of your State that has been laden down by wind event, and just to reiterate your comments, they are very concerned about the coming fire problem that they are going to have. And I think just the things that we have talked about today, some salvage harvesting in some cases, some thinnings in some others, some reintroduction of prescribed fire in others. It is going to be a combination of prescribed fires, civil cultural treatments, and mechanical treatments. I think all three need to come into play. But the acreage we are talking about in northern Minnesota is so great that we probably will only be able to dent it before this event eventually comes about.

Mr. GUTKNECHT. Well, my sense is it is sort of like the engineer's manual for the Union Pacific Railroad, where it said in one of the passages that if two trains should approach each other on the same track, both shall come to a complete stop and neither shall advance until the other has passed. And it seems to me, we have got a lot of these various agencies just sort of staring at each other, and nothing is happening, and we know that this is going to be a huge event, and we hope that there won't be a lot of loss of human life. But we have got a lot of campers who love to go in there, and if this should happen when you have got a lot of people in there, it will be very difficult to get them out because we don't have any roads, it is a canoe area. I am very concerned about what is going to happen. But beyond that, it doesn't see, with the exception of this legislation we are talking about today, that too many people have a serious plan of how do you deal with these kinds of things in the future to keep them from winding up in a situation where you are going to have this huge, huge, very hot fire. Comments?

Mr. WALLS. That is very true. In your area I did take Boy Scouts from Oregon out there, and had a great week in the Boundary waters. That is a terrific trip. And it is sad with the blow down. We are facing much of the same stuff throughout the West with beetle kill in other areas. And we need to get to planning and moving forward. And we can do that and do it with the environmental community blessing, also. And what we do in the Landscape Management System tool that we have, is we design the future out first. Say where do we want this forest to be in 100 years, and then we do the prescriptions to get there. And we do it with visualizations and other techniques. We have industry on our board, we have environmental community on our board. That gets the buy-in to get moving instead of the mistrust that we have that seems to stalemate everybody.

Mr. GUTKNECHT. Thank you very much.

The CHAIRMAN. I thank the gentleman. The gentleman from South Dakota, Mr. Janklow.

Mr. JANKLOW. Thank you very much, Mr. Chairman.

Mr. Koehn, you are with the State Foresters?

Mr. KOEHN. Yes.

Mr. JANKLOW. You represent them here today?

Mr. KOEHN. I do.

Mr. JANKLOW. Are there any foresters in your association as far as you know that disagree with the testimony that you have submitted here?

Mr. KOEHN. As far as I know, we ran that testimony past not only our executive committee, but our legislative committee, and we have concurrence as far as I know.

Mr. JANKLOW. And your organization, as you said, consists of all 50 States' territories, but all 50 States, Republicans and Democrats, liberals and conservatives, left and right, geographically, the four corners of this country?

Mr. KOEHN. NASF supports the position that I iterated today.

Mr. JANKLOW. The question with respect to blow down, in the Black Hills we have had the same problem, huge areas of blow down, millions and millions of trees. A lot of it just blows the tops off, snaps all the tops off the pines. Some people make the argument that one of the reasons that happens is the forests are so thick, the trees are so weak, that it is a net result they can't withstand traditional types of winds, these peaking periods of winds. The gentleman next to you, I can't read his name, I am sorry, from UCLA?

Mr. HELMS. Helms.

Mr. JANKLOW. Mr. Helms, I am sorry. Do you agree with that type of—is one of the ways the trees blow down are the tops snap off in high winds?

Mr. HELMS. Well, it is very difficult to generalize, but if I can generalize, the most wind-prone trees are those that have grown up in a well spaced environment, and the most wind-prone trees are those that have grown up in a dense stand and then that stand has been opened up a little bit, either through another wind, or insect disease damage, or some other interference. Those trees are very susceptible to either being blown off or the tops being broken out of them. So the way to maintain stands in a wind-prone condition is to keep the trees individually healthy, which means giving them some space to grow.

Mr. JANKLOW. Mr. Koehn, the gentleman from Georgia asked the question about some of his constituents are suggesting leave the trees in their natural state. Isn't it fair to say that almost every place over the last century where we found insects coming in, we have tried to get rid of them? We haven't let nature take its course with the forest. We have sprayed the insects as opposed to letting them do their work on the weaker trees, and in most instances not affecting the stronger trees, putting out the fires when they start. It has never been acceptable public policy to let a forest fire rage out of control so they try and put them out. The net result is the more human beings have gotten around forests, the more they put the fires out, the more the forest grew, and nature didn't take its course. Let me ask you, sir, do you agree with the testimony of the gentleman from the Nature Conservancy?

Mr. HELMS. I support the views of the Conservancy. The one comment I might make is the remark regarding using ecological criteria for stand development. I think in addition to that, one has to apply societal goals and needs in addition to ecosystem issues.

Mr. JANKLOW. What about you, Mr. Koehn, do you agree with this testimony?

Mr. KOEHN. More or less. The thing I most strongly agree with is the fact that I think I heard the gentleman on the end of the table say, more or less, that a cookie cutter approach will not work in every case, and that just one way of dealing with the issue, let us say, thinnings, per se, would be the best or the only way. I think that as I said earlier, a combination of things, whether they be civil cultural treatments, mechanical treatments, prescribed fire, involving the public, all these things in a greater fashion will have to be brought to bear.

Mr. JANKLOW. Mr. Hardesty, as I read your testimony, sir, tell me if I am accurate. I got the impression that with respect to the areas near the urban interface, your organization suggests being far more aggressive, but then it also does support other types of projects away from the urban interface in a demonstration mode in several areas. Did I read that correct?

Mr. HARDESTY. You did, but let me follow up. I would agree with a number of the points made by the gentlemen on the panel, that you need to consider something like ecosystem health or ecological health from several different perspectives. One is ecological, the other is social; it is not a simple definition. We would support aggressive—assertive maybe is a better term—reduction of hazardous fuels in the urban-wildland interface, but a caveat for us is that the agencies and the community engaged in that, need to use that as an opportunity to learn. Right now, the agencies are not monitoring, they are not really doing it adaptively, except in a few places. They are typically less contentious areas to reach resolution about how the larger landscape should be managed. It is better to make mistakes in the urban-wildland interface where they have less ecological impact. We do support, if landscape scale analyses support active treatment, active management, in larger landscapes, we would support that, but not as you can't generalize. It is going to be different everywhere.

The CHAIRMAN. I thank the gentleman. The gentleman from Iowa, Mr. King.

Mr. KING. No questions.

The CHAIRMAN. No questions. Well, that leaves me then, I guess. Mr. Walls, in your testimony, you mentioned the need to conduct thinnings by a basal area presumption as opposed to identifying trees that need to be cut by imposing a diameter limit. How can we better communicate the need to thin and conduct management based on the end results without getting bogged down in debates over diameter limits and artificial boundaries, such as wildland-urban interface, that shift the focus away from what is scientifically and ecologically appropriate for a particular area?

Mr. WALLS. I think that Chief Bosworth said it best, and that is getting them out on the ground. And in Lakeview, we have got the Lakeview Stewardship Group, which is an informal group, but on it is the local mill, is the defenders of wildlife, is the wilderness society, and community leaders. And we are using the approach that we go out, just as you just mentioned, and design and look at what we want in the future for that forest and design to get there. But they are on the ground doing it. They are working with us in these

collaborative units. And that is the only way I can see—to me it has been more of not where we want to go but more of a trust issue, and that is how you build up the trust. And when we got the Federal sustained unit we authorized, it was through this group. And over those years since 1998, that is the trust that built up. We just got—we are burning 40-plus thousands of acres in my county every year the past few years, and our sales this year so far have gone straight through NEPA without any opposition due to that collaborative effort. The one sale is already out and gone from burn last year. Before that never happened, so it is that collaborative type thing, I think, is part of that answer. You have got to involve all those stakeholders and help. You come to an agreement on where you want that forest to go, and then you start managing to get there. I hope I answered that.

The CHAIRMAN. You did, indeed. Thank you. Mr. Hardesty, I, too, want to express my appreciation not only for your testimony but for the Nature Conservancy. They are quite active in my Congressional district. In fact, on Monday I had the opportunity to hike on a new acquisition that you have, a kind of a centerpiece for you folks. You have just acquired 9,000 acres from the Virginia Hot Springs Company, of privately owned land, and I had the opportunity with members of the Natural Resource Conservation Service and the Soil and Water Conservation Board members in my area, to hike it with Linda Crowe of your Charlottesville office, and it is a beautiful tract of land, and we are pleased that you are managing it.

In your testimony, you stressed the importance of working at a landscape level to address the issue of forest health. In fact, the Conservancy works in this way on the lands under its care. However, there seems to be some contradiction when the discussion turns to the wildland-urban interface. How do you marry the concept of conducting landscape level projects with the restrictions to conduct them in the wildland-urban interface?

Mr. HARDESTY. First of all, we are not advocating restricting active management in the wildland-urban interface. What we are arguing is that—and I would agree with the gentleman to my right, Mr. Walls, that through good upfront collaborative engagement of stakeholders, scientists, managers, people of different opinions, that over the long term we will be able to manage effectively in the larger landscape, you don't need to relax requirements—you can do it under current NEPA. So we are advocating, in fact, over time, where appropriate, moving into a larger landscape.

The CHAIRMAN. Thank you. Let me direct a broader question to the other members of the panel. In Congress there is debate going on, on whether we should focus our hazardous fuels reduction in and around this wildland-urban interface, and let me ask everybody. Should fuel reduction be done only within a specific distance from that interface to maximize protection of communities?

Mr. WALLS. Could I start?

The CHAIRMAN. Sure, Mr. Walls.

Mr. WALLS. In Lake County, there are more cows than people. We don't have too much of an urban interface. And so that—and I understand the environmental community's concern over doing that, but that wouldn't leave us much. We have a monitoring pro-

gram, a third-party monitoring program going on in the forest, that we do through scientists. And we have got some plots in old growth forests, and these same forests are dying for the same conditions we are talking about today, and that is the lack of the natural fire regime. And if I am only going to rely—so that is one point. We can't just let these forests continue to die because of the suppression of fire that we have done. The other point I want to make is an economical one. If I am only going to rely on tourism, at the rate we are going, and the burns we have had, and if these droughts keep going, I don't get tourism in Lake County looking at black trees. But I think we can accomplish all these goals outside the urban interface if I live up to my commitment to Mr. Hardesty and the other community, that we will look at what is environmentally right to take these forests to those long-term conditions that the public wants. We can manage that way scientifically, and I think we can do that. So I would be reluctant to have just the urban interface, because that would leave Lake County out of it and I would watch my forest just keep going the way it is today and that would be wrong.

The CHAIRMAN. Thank you. Well, it seems to me that if we have this problem with the fuel buildup, yes, that kind of catastrophic wildfire that we are getting that takes the whole forest and not just burns on the ground is obviously going to be given a high priority when it is getting close to an urban area. But it is going to destroy the forest. It is not a natural fire, whether it occurs close to an urban area or whether it occurs far from them. And in either case it is going to cause air pollution, it is going to destroy wildlife habitat, it is going to damage streams, and it is going to permanently damage in very detrimental ways the forest itself if it becomes so hot, so intense, that it destroys the entire forest, sears the ground, and does this type of damage. I wonder if Dr. Helms or Mr. Koehn would like to respond to that?

Mr. HELMS. I would just comment on your earlier remark that when you have an enormous problem and you have limited resources, it makes obvious sense to apply those resources to the most sensitive areas, which are the urban-wildland areas. However, the problem is huge and the welfare of society depends upon the health and welfare of the forests throughout the watershed. So as soon as possible, we have to find the resources and the manpower to address these issues on a larger scale.

The CHAIRMAN. Is it always a money losing proposition when we do this type of thinning, or can it be, as I have seen it done in some places, an economically sustaining activity to improve the forest by thinning and other activities at the same time that you are generating revenues because of the value of the wood fiber being taken from the forest to sustain the economic activity and then carry it on into the next area. I have seen that on some demonstration projects out in California, where they had a natural ponderosa pine forest, but fir trees had grown up, very large fir trees in the midst of this, and then debris on the ground. So when you had a fire, you had the stair step process of taking the whole forest. The contract was to leave the ponderosa pines completely alone, go in and take out all of the naturally occurring fir trees, and then introduce fire on the ground to clear out the brush. The contract to pay for that

project was several millions of dollars for a couple of thousand acres. If that were replicated over and over again in places around the National forests, it would seem to me that you would both have a significant environmental improvement to the forest at the same time that you had some economic sustaining activity that would help the communities around them and pay for the cost of making these environmental improvements.

Mr. HELMS. Your statement is fundamentally correct, however, it would vary markedly depending upon the size, class, distribution, and the value distribution within the particular stands that you are talking about. So there would be some stands where the statement is correct. There may be other stands where currently there may be no market or little value in the material that must be removed. But overall, the project should be self-sustaining.

The CHAIRMAN. Let me let Mr. Koehn get in.

Mr. KOEHN. If you don't mind, I would agree with the statements of my colleagues as far as whether some of the thinning could be commercial as opposed to always noncommercial. I think that there would be commercial opportunities and it would be economically sustainable in a lot of cases. But your earlier comment about should we concentrate our efforts in wildland-urban interface type areas, in a lot of cases I found, to my way of thinking, the wildland-urban interface is not always a well definable kind of area. There is more or less a continuum from rural to exurban, to suburban, to well developed areas, so it is not always easy to decide where, exactly, you are going to set up your line of defense, if you will, when you are going to do your fuel treatment or whatever you are going to do.

To my very straightforward way of thinking, the woodcutter that I am, to build a moat around a town or any area that you think may be fire prone, in essence, a "moat". And I say that in quotes, and then hope that a rapidly advancing flame front is going to be held at check by such a way of doing business, that is putting a lot of hope on things, and hope is not a terribly good strategy when it comes to the fire business. I think what we ought to be doing is working out on the landscape where ecologically and socially it is acceptable. We don't want to lose all the resource value, whether it is tied up in the timber, or the watershed, water quality and water quantity type benefits that we get, or whether it is habitat or what have you. And the same thing goes for insect and disease problems, whether it is a fire problem that originated from dense stands of timber, or whether it is bug killed timber that has caused the predisposition of fire, we need to be out there on the landscape trying to deal with that as best we can in a comprehensive way so that we don't depend on our "last line of defense" when it comes to protecting these communities at risk.

The CHAIRMAN. Thank you. Dr. Helms, in your testimony you mentioned tree health, stand health, and forest health as a function of resilience to withstand stress or capacity to recover from disturbance. To what extent do invasive species affect tree, stand, or forest health and their ability to withstand that stress, what about wildfire, and what is the best way to ensure that our trees, stands, or forests can stand up to these various types of disturbances?

Mr. HELMS. I don't think anybody knows the answer to that question.

The CHAIRMAN. We are going to give you first shot.

Mr. HELMS. The impact of invasive species, as Chief Bosworth mentioned, is enormous, and it is increasing all the time. It is pervasive right across the country. And I also need to mention that we have got to recognize invasive species as including plants, and animals, and fish, insects, diseases, et cetera. And the difficulty here is that many of these invasive species out compete the native vegetation, or the native fish, or the native whatever population. So we have got to address how to manage these stands, and I think this, basically, depends on the development of public and political will and the allocation of resources. And in dealing with any issues such as this, I think the longer you leave it, the more difficult, and therefore, the more expensive it is going to be. But we need to take action on noxious invasive species of all stripes and colors.

The CHAIRMAN. In addition to the Healthy Forest Initiative, which I take it from your comments this by itself is not going to solve our problems. What other aspects of forest health should be addressed?

Mr. HELMS. The most immediate issues that we commonly talk about are stand density, and fuels, and fire. But issues of forest health or stand health involve a much broader array of ecosystem attributes, and I am particularly concerned about the spatial and temporal components of the issue, because these are much more difficult to deal with. And so I believe that we need to put a lot more emphasis on research and monitoring to understand the way in which ecosystems function, and we need to address the factors that are perhaps limiting our ability to deal with these issues. And I think a lot of this concerns the inconsistency among the many statutes that govern the way in which land is managed. Many of these statutes are 20–25 years old. Many of them are inconsistent with court decisions. They probably don't take advantage of research over that period of time. And they many not even be consistent with public attitudes. So somehow or other, I think we need to cut through this maze and try and make the legislation that we are working with much more efficient and effective. And from the Society's standpoint, we would probably like to see much more emphasis given to incentive rather than regulation in addressing the issue.

The CHAIRMAN. Very good. Mr. Koehn, I understand that the State Foresters work closely with other State agencies in the Federal Government to provide assistance to non-industrial private forest landowners. Can you explain how the Maryland Forest Service assists in the conservation of private forest land?

Mr. KOEHN. Sure. Back in our State, we work very closely with other agencies both within the State of Maryland and within my particular agency, the Department of Natural Resources. The closest sister agency that I work with on more or less a day-to-day basis is the Maryland Wildlife and Natural Heritage Service. We work very closely with them on habitat restoration projects. We have been working very closely with that group and other groups like Ducks Unlimited and the Chesapeake Bay Foundation to implement the Conversation Reserve Enhancement Program which

we found very useful in installing such practices as riparian force buffers and grass waterways to protect water resources on private lands. We also work very closely, hand-in-hand, with the management of our State Public Lands, our State Forest Management System, and our Wildlife Management Areas. We also work in conjunction with other agencies, other departments within Maryland, the Department of Planning, the Department of the Environment when it comes to water quality issues.

If I may, to add a comment to the question that you had asked earlier about what things do we need to address, that this is not a panacea and a catchall, I would like to say that I agree, that things like overstocking and the general lack of management is something that we need to address. However, I think, also, equally as important is this whole issue of land use fragmentation and how things are laid out spatially in the landscape, whether that is development versus agriculture versus forestland, or whether it is the actual structure of the forestland within a particular hunk of forest. I think if we don't address some of these things, whether it is from a fire aspect or whether it is from clean water and watershed protection aspects, or wildlife habitat aspects, that we are going to be missing the boat. And I think it is really important that at some point in the future we have a dialog about these kinds of things. And I know that has been occurring in Maryland and it has been occurring in a lot of other mid-Atlantic eastern States, and I hesitate to say, but I think it is true that these kinds of issues will be visited by other States here in the very near future.

The CHAIRMAN. Thank you. Tell me about the preparedness of the States and local fire services to prepare for the challenge ahead of them. Obviously, we are going to try to help reduce excess fuels on the ground, but these fire departments are going to continue to play a critical role. How well prepared are they for that?

Mr. KOEHN. Well, as you well know, the volunteer fire service is critical in most States, along with the State Forestry agencies, when it comes to responding to natural fuel cover fires. I will say that as you also probably know, that a lot of the States, mine in particular, and I know others, are dealing with severe State budget shortfalls, and in some cases it is several billions of dollars. So it is going to be difficult to make sure that the volunteer fire service and other firefighting agencies stay adequately equipped. But I do believe programs like the Federal Excess Personal Property Program, the Volunteer Fire Assistance Program, the State Fire Assistance Program, all work fairly well in helping to maintain a relatively decent level of response capability.

However, I will say recent changes in the Federal Excess Personal Property Program put State Forestry agencies in the U.S. Forest Service at a disadvantage in that we are not on the frontlines of the screening process and that we have to take a second seat to, let us say, other law enforcement type agencies. And I believe that one of your colleagues from Arkansas has submitted legislation that would hopefully correct that, and that would put us on a level playing field again. Because this program, the Federal Excess Personal Property Program, is a major source of relatively decent firefighting equipment, and along with the Volunteer Fire Assistance Program, which is grants to these fire companies, they

are allowed the use of some funds to equip those pieces of rolling stock, and we can get more brush units out there and ready to do the job when we do have a fire occurrence.

The CHAIRMAN. Thank you. We will take a close look at that. Well, Governor Janklow, you are the sole survivor on the committee, and because of that, we will give you the right to ask the last question if you have one.

Mr. JANKLOW. Thank you, Mr. Chairman. I just have a few questions. With respect to the fire issues in my State, we have two paid fire departments and 554 volunteer fire departments. When we have a fire in the Black Hills, and that is the only place the Federal fires occur, our State is 450 miles long, 250 miles wide. We are dragging an awful lot of people to an awful lot of fires in the Black Hills for a long period of time. It is not going out there for 3 or 4 days. It is sometimes weeks. These are the same people that own farms and ranches, and work in schools, and lord knows what else, everything you can possibly imagine. They can no longer continue to do this.

The fires in our State have cost our State millions and millions of dollars that are unreimbursed even when they originate as a Federal fire, because huge amounts of land in the National forest are privately owned, State owned. We have the second largest State park in the Nation out there. And federally owned. It is where the fire starts as to who is responsible for it, initially, but everybody pays in proportion to the land that is burned. So the Feds, because of the way they manage their forest have the fire, but all the rest of us have to pay these exorbitant amounts for fighting the fire because we are defending maybe 30 percent of all the land, defending our State and privately owned properties with no reimbursement other than FEMA funds. And the State has a 25 percent match for that, as you know. The State people really know.

The point that I am making with this is there isn't enough money in the world to continue to fight the fires. And certainly, when you are $400 billion or so out of whack on a budget, there is not enough money to go out and just start paying people to thin tens of millions of acres of forest, which means it is either going to burn down, eventually, or it is going to be a combination of burning down, and some type of commercial thinning, and some type of paid thinning.

Let me ask you, Mr. Hardesty. As a general proposition, is your organization opposed to the multi-faceted approach of those three aspects?

Mr. HARDESTY. No, not at all. You mentioned volunteer fire departments. We are working with a number of volunteer fire departments around the country to, during the times when they are not fighting fires, these are both paid and volunteer firefighters. During the times when they are not fighting fires, they are actually doing prescribed fire, particularly, in fire prone areas. I think as you may know, it typically costs a fraction of the amount of money to do a prescribed fire, even in relatively complex situations, as it does to fighting a fire in the same situation when the situation is completely unstable and uncontrolled.

So part of it is actively engaging—part of the solution, particularly, in the Black Hills, is actively engaging landowners and the

State and Federal agencies in introducing much more prescribed fire on the ground. The approach of some subsidy of volunteer fire departments, as we said in our testimony, of subsidizing small diameter biomass removal, again, where there is good community consensus and good science backing that up, which I believe in the Black Hills there would be. And then last, doing it adaptively. I can't stress this enough. Right now there are dozens, hundreds, thousands, of projects that are occurring on the ground, where we are thinning and we are burning—collectively, the Federal agencies, States, and private citizens—are thinning, and burning, and treating different ecosystems in a variety of different ways. But because we are not doing it thoughtfully in many places, we are simply not learning. There are great lessons to be learned with a little bit of upfront thinking about how to put treatments in the landscape, how to work with the scientific community to do monitoring, as I think Mr. Walls has pointed out in Lake County, as we have been able to demonstrate in many of the places where we work around the country, including big landscape scale projects. Right now, for example, the Conservancy is working on some landscape scale projects that total about 60 million acres, where our intention is to, eventually, move to that scale. Those are public and private ownerships mixed, generally. So doing it adaptively, doing it with good science, some subsidy from the Federal Government from taxpayers is going to be essential to do that.

Mr. KOEHN. If I may, a comment that Mr. Hardesty made, there may be something I can add to the discussion. The comment about volunteer fire companies when they are not fighting wildfire may be involved in prescribed burning operations. Anecdotally, we have a couple of people in Maryland that are trying to form any number of "contract prescribed burn teams" where they would go around and work with private landowners and use money from the Forest Land Enhancement Program, a new program through the farm bill, to do warm season grass burns or prescribed fire type things for habitat, or for site preparation, or hazard fuel burns. The problem is in those cases, there is interest, there is a market, there is money to be had. The landowners are willing to do the cost sharing. But from time to time, these folks come back to me as the State Forester and say I have a dickens of a time getting insurance. I can't find liability insurance. Somehow they figured out how to do this west of the Mississippi. Contract prescribed burn teams are relatively common. For whatever reasons, at least in my neck of the woods in the central mid-Atlantic type area, it is very difficult for people that think there is a market, think they can make some money doing this.

It would certainly help not only me, wildlife objectives, and timber management objectives, but also, this whole issue of overstocked stands and fuels loads. There is actually markets there, but in some cases it is a simple thing of being able to get insurance that holds the process back.

Mr. JANKLOW. But in the area of the country, and again, I am being parochial, where I live, you can't really do prescribed burns anymore of any substance because the fuel loading per acre is 20 to 30 tons. The ladder fuels are unbelievable with the millions of trees that have had their tops broken off. I mean, I used this book

this morning to make a point, but I mean, I have page after page of, literally, photographs that were taken by General Custer's folks when they came to the Black Hills on August 11, 1874 is this particular picture. This is the same photograph, or a photograph from the same spot today. This is the way God did it and this is the way we do it. The difference is we killed 23 firefighters last year, destroyed hundreds and hundreds of homes in America, did billions of dollars worth of damage in terms of firefighting, and that is just the initial cost.

Now nobody is adding up what it costs to go and deal with all these stands of trees that are now destroyed that are terribly insect prone, and the quantity of insects that will come deal with these dead trees really now will go destroy the viable trees in the interface area around it, what it is doing to the watersheds. We took 40 percent after the Grizzly Gulch fire in the Black Hills, NRC, the National Resource Conservation Services, allocated 40 percent of its budget of discretionary funds to doing emergency measures so the town of Lead and Deadwood wouldn't have a second multi-million dollar mudslide that came roaring through the community after they had 2 inches of rain in the Black Hills. They were concerned about subsequent ones. This is insanity, the way we are doing it.

And so, Mr. Chairman, again, thank you today for this hearing. Thank all of you gentlemen with your diverse views for coming. One thing I get out of all of this, and I probably came with a preconceived notion with it, every panelist that has appeared here today agrees the way we are doing it isn't working. We have got to do something different than the way we are doing it now. Thank you.

The CHAIRMAN. I thank the gentleman for his contribution, and I thank all the members of this panel for very valuable insights into what can and should be done.

I want to also take this opportunity to recognize somebody who has helped me greatly for the last 2 years. Kathleen Elder has served the Agriculture Committee and the subcommittee that I had the opportunity to chair until this year, giving us her expertise on forestry issues, and we will miss you, and hope you will come back and help us through the rest of this legislation and give us your help in the future as well. But we wish you well with your family and your future plans.

Without objection, the record of today's hearing will remain open for 10 days to receive additional material and supplementary written responses from witnesses to any question posed by a member of the panel. And I know that at least one member of the committee is submitting some questions in writing and we will ask that members of this panel and the previous panel respond to those. This hearing of the House Committee on Agriculture is adjourned.

[Whereupon, at 1:03 p.m., the committee was adjourned.]

[Material submitted for inclusion in the record follows:]

STATEMENT OF MARK REY, REBECCA WATSON, DALE N. BOSWORTH, AND PETER J.ROUSSOPOULOS

Chairman Goodlatte and members of the committee:

We appreciate the opportunity to meet with you today to discuss the President's Healthy Forests Initiative (HFI) and other related issues. Before we begin, we would like to congratulate you, Mr. Chairman, on assuming leadership of the Agriculture Committee. We look forward to working with you and have very much appreciated the interest and support you have given to important natural resource management issues.

The need for action to restore our forests and rangelands to long-term health has never been greater. The presence of large amounts of hazardous forest and rangeland fuels poses a threat to public and private natural resources and to people. Additionally, millions of acres of forest and rangeland ecosystems are under relentless attack from native bark beetles and non-native invasive species, including highly flammable plant species, displacing natural forage and native habitat.

For most of the 20th century, wildland fires were suppressed as soon as possible to reduce their negative effect. Aggressive fire suppression was effective but had an unintended consequence. The frequency and intensity of today's wildfires appears to have increased due to the buildup of fuels such as dead and dying trees and dense growth of flammable vegetation. Fire exclusion resulted in woody species encroachment into shrublands and grasslands, altered wildlife diversity and populations through habitat modification, and increased disease and insect infestations. This build up of fuel, coupled with other factors such as drought, have raised increasing concerns about the overall health of forests and rangelands.

In May 2002, working with the Western Governors' Association and a broad cross-section of interests including county commissioners, State foresters, tribal officials and other stakeholders, we reached consensus on a 10-year Comprehensive Strategy Implementation Plan to reduce fire risks to communities and the environment. The plan sets forth the blueprint for making communities and the environment safer from destructive wildfires. The plan calls for active forest and rangeland management focusing on hazardous fuels reduction both in the wildland-urban interface and across the broader landscape. Active forest management includes: thinning trees from over-dense stands that produce commercial or pre-commercial products, biomass removal and utilization, and prescribed fire and other fuels reduction tools. We want to thank Congressman Pombo for initiating and the members of the House of Representatives for passing House Concurrent Resolution 352 endorsing the 10-Year Comprehensive Strategy during the 107th Congress.

THE PRESIDENT'S HEALTHY FORESTS INITIATIVE

Consistent with the belief that public land policies need to be based on common sense and common ground, this past August the President announced the Healthy Forests Initiative in order to help reduce the risks of catastrophic wildfires to communities and the environment, and to restore to health forest and rangeland ecosystems that currently suffer not only from the devastating effects of wildfire, but also from disease, insects and noxious weed infestation. The Healthy Forests Initiative seeks to address the dense, unhealthy condition of Federal forests and rangelands by giving Federal land managers the tools they need to restore these lands to a condition where they can resist disease, insects, and catastrophic fire.

The President further signaled his intentions to make this issue a top administration priority in his 2003 State of the Union message. The Healthy Forests Initiative builds on the fundamentals of sound science and resource management principles that have guided the Forest Service and the Bureau of Land Management since their formation. These principles embody conservation and a balanced approach to the use of natural resources that remain valid today as these Federal agencies work together with local communities, States, Tribes, and other Federal agencies. The Healthy Forests Initiative will help implement core components of the 10-Year Comprehensive Strategy Implementation Plan, enhancing and facilitating the work and collaboration agreed to in those documents, and will guide the restoration of healthy, viable ecosystems in our forests and rangelands.

The administration has proposed a combination of legislative and administrative actions to implement the Healthy Forests Initiative.

Legislative Proposals. Last year the Secretaries of Agriculture and the Interior transmitted a legislative proposal to the Congress which would authorize emergency hazardous fuels reduction projects in priority areas of Federal forests and rangelands outside wilderness areas. This proposal would allow timely treatment of public lands at risk of catastrophic fire and those that pose the greatest risk to people, communities, and the environment. Our top priorities would include the wildland-urban interface, municipal watersheds, areas affected by disease, insect activity, windthrow, and areas subject to catastrophic reburn. We would select projects

through collaborative processes, consistent with the 10-Year Comprehensive Strategy Implementation Plan.

USDA believes section 322 of the Department of the Interior and Related Agencies Appropriations Act of 1993 (commonly known as the Appeals Reform Act) limits the Forest Service's ability to work collaboratively with the public. The proposal would repeal of section 322 which would enable USDA to develop an administrative review process that would better allow collaboration with local communities and other interested parties before a decision is reached. Repeal would thus stimulate up-front discussions and promote open relationships.

The legislative proposal also contained new standards for injunctive relief for activities necessary to restore fire-adapted forest and rangeland ecosystems. This provision would ensure that courts consider the public interest in avoiding long-term harm to ecosystems, and give deference to an agency finding that the public interest in avoiding the short-term effects of such action is outweighed by the public interest in avoiding long-term harm to such ecosystems.

Stewardship Contracting. The recently passed Consolidated Appropriations Resolution, 2003 (PL 108–7) contains stewardship contracting authority. This provision allows the BLM and the Forest Service to enter into long-term stewardship contracts with the private sector, non-profit organizations, local communities, and other entities. Congress has entrusted agency land managers with a critical tool to implement projects to achieve land management goals. In implementing this authority, the primary objective of these projects will be to improve forest or rangeland health; restore or maintain water quality; improve fish and wildlife habitat; and reduce hazardous fuels that pose risks to communities and ecosystem values. The focus is on what we leave behind—an improved land health— not what we take out. We will work with local communities and others to implement this authority to create jobs, and develop new business opportunities. These efforts will help the agencies and their State, Tribal, and local partners to better implement the President's Healthy Forests Initiative and the National Fire Plan.

The Bureau of Land Management will implement stewardship contracting on a limited basis in FY 2003 while guidance for long-term implementation is developed. The Forest Service will implement stewardship contracting much as it did during the pilot program. Implementation is authorized on all units. Lessons learned from the pilots will be incorporated into the program. The agencies are preparing joint guidance for utilizing the new stewardship contracting authority that will be published in the Federal Register for public comment.

We want to emphasize that stewardship contracting is a tool to implement projects on which the appropriate National Environmental Policy Act (NEPA) processes have been completed. In addition to NEPA, all environmental laws will apply to projects. Projects will be consistent with applicable land use plans and, where applicable, would be subject to agency appeal procedures. The agencies will approve project design and maintain project control. We are committed to third-party program monitoring.

Administrative Actions. The President's Healthy Forests Initiative directs the Secretaries of Agriculture and the Interior, together with Council on Environmental Quality Chairman James L. Connaughton, to: improve procedures for collaborative selection and implementation of fuels treatments and forest and rangeland restoration projects; reduce the number of overlapping environmental reviews; develop guidance for weighing the short-term risks against the long-term benefits of fuels treatment and restoration projects; and develop guidance to ensure consistent NEPA procedures for fuels treatment activities and restoration activities. The Secretaries have taken several administrative actions to accomplish these objectives which include the following:

PROPOSED CATEGORICAL EXCLUSIONS (CE) FOR FIRE-RELATED ACTIVITIES

On December 16, 2002, USDA and DOI published a notice seeking public comment on the proposal to add two new categorical exclusions under NEPA which allow some hazardous fuels reduction activities and post-wildfire natural resource and infrastructure rehabilitation to be conducted without the preparation of an environmental assessment or and environmental impact statement. The proposed CE's will provide the departments with identical management tools that will improve consistency, timelines and cooperation among the Federal agencies. A categorical exclusion is a method for addressing environmental documentation provided for under the implementing regulations for NEPA. The proposed categorical exclusions are based on a field review and analysis of over 3,400 projects that were found to not have a significant effect on the environment. They are crafted to exclude such sensitive areas as wilderness, Wilderness Study Areas where actions may impair eligi-

bility, wetlands, and impaired waters and archeological sites ESA-listed species critical habitat, and the construction of any permanent roads.

COUNCIL ON ENVIRONMENTAL QUALITY (CEQ) MEMO & MODEL ENVIRONMENTAL ASSESSMENT (EA) PROJECTS

CEQ Chairman Connaughton issued guidance clarifying the policy on the preparation of environmental assessments for fuels treatment projects. The clarification addresses the purpose and content of an Environmental Assessment, incorporation of information by reference, and analysis focused on potentially significant effects. The guidance asserts the need for active public involvement and concise documentation of project analysis. We believe this is a critical step in alleviating a part of the process predicament which has kept us from doing the Nation's work. While this policy is being applied initially to seven DOI and five Forest Service projects, we have high expectations that lessons learned in developing these projects will be shared widely within the Forest Service and Interior for application throughout the lands we manage.

Appeals Process Reform (Revision of 36 CFR 215). On December 18, 2002, the Forest Service published a proposed rule which would revise its implementing regulations under the Appeals Reform Act. Proposed changes are designed to encourage early and meaningful public participation in project planning. These changes will enable the decision maker to time a request for comments earlier in the project planning process, when those comments will be of most benefit to the public and the decision maker. To further encourage early and effective public participation, the proposed revision to the regulation stipulates that a person must have provided substantive comment during the 30-day comment period to be eligible to appeal. This again allows the decision maker to address issues and concerns during project planning, rather than hearing about them after the EA is complete, or in an appeal, after the decision is made. A final rule is likely to be published this spring.

Similar modifications to standing requirements to encourage early participation are proposed to the Bureau of Land Management's administrative appeal rules. The Office of Hearings and Appeals and the Bureau of Land Management have published a proposed rule to amend existing regulations governing hearings and appeals to simplify proof of service, to codify rights of appeal, and to expedite review of wildfire management decisions. The rule would also make BLM wildfire management decisions effective immediately.

Endangered Species Act Guidance. On December 11, 2002 two guidance documents were issued by the Fish and Wildlife Service (FWS) and NOAA Fisheries to facilitate and improve the design, review, approval and implementation of HFI projects, and they currently are being used by agency personnel. "Alternative Approaches for Streamlining section 7 Consultation on Hazardous Fuels Treatment Projects" emphasizes the grouping of multiple projects into one consultation. "Guidance on Evaluating the Net Benefit of Hazardous Fuels Treatment Projects" provides direction on how to fully consider and balance potential short- and long-term beneficial and adverse impacts to endangered species when evaluating such projects. HFI projects are being done in a more comprehensive and streamlined manner to achieve local and national HFI needs and meet endangered species goals. The goal is to recognize that project-specific, short term adverse impacts need to be weighed against the longer-term watershed level benefits such projects will achieve.

Proposed section 7 Counterpart Regulation. The FWS, NOAA Fisheries, Bureau of Land Management, Bureau of Indian Affairs, National Park Service and Forest Service are developing section 7 joint counterpart regulations under the ESA for projects that support the National Fire Plan. They anticipate proposing a draft rule in the Federal Register notice this spring, for public review and comment. The proposed regulations would provide an alternative, in some situations, to the existing section 7 consultation process by authorizing the action agencies to make certain determinations without prior consultation with the FWS and NOAA Fisheries. This proposed delegation would be authorized after appropriate training is completed and would be subject to periodic monitoring by the services. The purpose would be to meet all ESA obligations for species and habitat protection while encouraging determination and consultation processes to work more efficiently, utilizing expert professional biologists in all effected agencies.

Wildland Fire Outlook. The 2002 wildland fire season was intense, difficult, and historic. Long-term drought over most of the West contributed to an earlier and very severe fire season. Fires burned in every type of vegetation from grasslands to subalpine fir and in every type of ownership, often with devastating effects. For example, the Biscuit Fire in Oregon destroyed more than 100,000 acres of northern spotted owl habitat. The Pensaco Fire in New Mexico wiped out a population of Mexican

spotted owls. The recovery plan for these owls had recommended the forest be managed to a healthier state through appropriate thinning. —Of the 7.2 million acres burned in 2002, only a few wildfires were the large, uncontrolled fires seen on television. Many of these were the fires that burned in and around wildland-urban interface areas requiring extensive evacuations of communities, subdivisions, and ranches. Fire activity was intensified by unfavorable weather conditions and in many situations posed a safety threat to firefighters and members of the public.

The outlook for the upcoming fire season from our analysts at the National Interagency Coordination Center (NICC) in Boise, Idaho, is that nationally, the 2003 fire season may not be as severe 2002. However, we do have the potential for an above normal fire season in the interior west, central and southern Alaska, the western Lake States, and northern Maine. Long term drought persists over much of the interior West. Mountain snow pack and precipitation remains below average for most of the western States with the exception of northern and central California. The outlook for March through August calls for early snowmelt for Alaska, the Pacific Northwest the Great Basin and northeastern California, and drought conditions emerging in the Great Lake States. Drought stressed or insect damaged vegetation is becoming more prevalent across the western States will increase the potential for large, destructive wildfires at mid to high elevations.

Non-Native Invasive Species and Bark Beetles. Mr. Chairman, before we close we want to address another serious issue facing Federal forests and rangelands today, the spread of invasive species and native bark beetles. Forest insects, fungi, and parasitic plants play important ecological roles. The tree mortality that results directly or indirectly from their activity drives plant succession and contributes to biological diversity. Although native insects and pathogens have been with us historically, the frequency, extent, or timing of outbreaks has changed dramatically for some of these disturbance agents. Changes in tree stand density, composition, and structure caused by fire exclusion and the lack of forest management are two factors that may have affected outbreak patterns. Introduction of invasive plant, pathogen, and insect species have also had an affect. In addition, the drought of the last four years over much of the country has stressed forests and lowered trees' resistance to insects and disease.

Large insect and disease outbreaks, like other natural and human-caused events that require immediate attention, do not respect administrative boundaries and impact forested lands of all ownerships, Federal, State and private. These outbreaks are assessed by the land managers of forests where they occur. Where treatments can be expedited this is done; however, most treatments require environmental analysis before work can begin. Once the analysis is completed, National Forest, Interior, and State and private land managers can then set or revise the relative priority for response, taking into consideration all the other work that is required, the relative urgency for treatment, and the resources available to do the work.

Two comprehensive strategies have been developed by the Forest Service to address Southern pine beetle and Western bark beetles. The goal of the strategies is to treat the current outbreak and reduce the likelihood of future large infestations. Suppression of an epidemic is the first step in a long term process that also includes forest restoration to conditions less susceptible to future attack. Public and landowner education programs and continued research to support suppression, prevention and restoration activities are key elements of the strategy.

The Forest Service is now developing a comprehensive strategy for all invasive species that threaten America's forests and rangelands. In addition, the Emerging Pest and Pathogen Fund was established in 2003 because of the continued high risk of damage to forests posed by invasive species. Priority at the national level is given to projects that protect wildland/urban interface areas, threatened and endangered species habitat, developed sites (such as campgrounds) and high value specimen trees, and State and private land adjacent to National Forests. Projects to eradicate new infestations of nonnative invasive insects and diseases are also high priority because such new pests are often very damaging and difficult to control once they are firmly established. National priorities are combined with regional priorities to determine overall funding priorities for treatment.

The Forest Service conducts research on native and invasive insects, plants and pathogens at research units across the United States. We collaborate with the Agricultural Research Service, Agricultural and Plant Health Inspection Service, and other Federal and non-Federal research organizations on such high priority threats as the western and southern bark beetles, Gypsy moth, the emerald ash borer Asian longhorned beetle, Hemlock woolly adelgid, and Sudden Oak Death disease. Research results include biological information that underpins quarantine of the pine shoot beetle and acoustical detection technology for identifying Asian longhorned beetle infested trees within a quarantine area. For Sudden Oak Death, Forest Serv-

ice and university scientists have helped to refine quarantine regulations and their findings supported an emergency eradication effort in California led by APHIS.

In addition to changes in the health of our forests, many rangelands became havens for herbaceous non-native species. Some rangelands have experienced more frequent wildfires due to the presence of flammable, exotic plant species, such as cheatgrass. In turn, each wildfire has created conditions favorable for a further increase in the number and extent of exotic species. This results in a cycle of vegetation and habitat degradation and in costly, destructive wildland fires.

Previously, wildland fire had maintained rangeland by rejuvenating decadent grasses and killing most young trees that might have expanded onto our rangelands. Fire suppression allowed an invasion of woody species such as pinyon juniper onto rangelands, causing reductions in grass cover and increased density of woodlands and shrub lands. On some sites, the loss of grass cover has resulted in increased wind and water erosion. Erosion further reduced herbaceous cover, perpetuating the cycle of degradation. When wildfires eventually burn these sites, they are generally severe due to increased fuel accumulation.

President Bush's proposed Healthy Forests Initiative is based upon a commonsense approach to reducing the threat of catastrophic wildfires by restoring forest and rangeland health. Our goal is to ensure the long-term safety and health of communities and ecosystems in our care. Our responsibility is to ensure the long-term health of our forests and rangelands for the use, benefit and enjoyment of our citizens and for generations to come. These are goals and responsibilities that we take seriously and we fully commit ourselves, our agencies and the resources you have provided us to fulfill them. We appreciate the continued bipartisan support we have received from the Congress, and we look forward to working with you to implement the President's agenda.

We will be glad to answer any questions you might have.

STATEMENT OF JOHN A. HELMS

Mr. Chairman and members of the Committee, my name is John Helms and I am Professor Emeritus of Forest Science at the University of California, Berkeley. I am here today representing the Society of American Foresters. The Society has more than 17,000 members dedicated to advancing the science, technology, education, and practice of forestry in the United States for the benefit of society at large. One of our core values is sustaining forest resources by simultaneously meeting environmental, economic, and societal goals and constraints. I am pleased to have this opportunity to testify on the important topic of forest health.

1. What is meant by Forest Health? Forest health is difficult to define. The concept is imprecise, value laden, and controversial. There are at least 18 different definitions in the literature. The Society of American Foresters holds the view that forest health is a perceived condition involving consideration of such factors as age, structure, composition, function, vigor, and unusual levels of insect and disease activity. Potentially, forest health involves considering the status of all ecosystem components.

Consideration of forest health also involves what constitutes a forest. More precisely, we should decide whether we are really concerned about the health of trees, stands, or forests. That is, we need to decide the spatial scale over which health is being considered. For example, an individual tree, or a stand of trees, could be deemed unhealthy, but the forest as a whole could be viewed as healthy.

Similarly, we must consider temporal aspects—whether health is being considered at one point in time, over a period of decades, or over centuries. For example, following a windstorm or insect attack a forest stand may be perceived as unhealthy, however a decade or two later it could likely regain the attributes of health.

Basically, tree health, stand health or forest health is a function of resilience to withstand stress or capacity to recover from disturbance.

It is helpful to regard forest health as similar to human health. Differing interpretations can be made depending on the physiological, functional, or performance standards chosen and whether we are concerned about the health of people, suburbs, cities, or regions and over what time scales. Similar to human health, the health of a forest is a function of its past history and current condition. It is essential that concepts of time, age and spatial distribution be integral to any discussion of forest health.

2. Issues of Forest Health Vary by Forestland Ownership and Management Objective. Forestland in the United States is owned by a mix of Federal, State, industrial, families, tribal, and trust institutions or people. Each of these owners has different objectives and responsibilities for land management and therefore their forests have

different structural attributes. In addition, forestland is commonly fragmented with boundaries based on usage rather than ecological entities. Consequently, forest health issues commonly differ among ownerships as well as among forest types, climate, and past usage and are therefore commonly unique and require individual professional analysis and prescription.

3. Precise Communication Requires Agreement on Definition. Forest health is a complex concept that is interpreted differently depending on viewpoint. It is, therefore, imperative to agree on which definition or interpretation is to be used before one can conduct a meaningful discussion or craft satisfactory legislation.

4. Forest Health is Primarily a Function of Stand Density. Of all characteristics of forest condition, the dominant factor determining vigor is stand density, or the number of trees per unit area. In dense, unmanaged stands, or as a result of fire exclusion policies, trees are often close together and have small crowns and root systems. These stands have low vigor and are susceptible to drought, insects/disease, and catastrophic wildfire. Under these stressful conditions, tree mortality can be extremely high.

5. Unhealthy Stands are High Risk. Natural stand development from regeneration to maturity includes a period, commonly of numerous decades or a century depending on site quality, characterized by high, natural tree mortality and reduction in tree number from many thousands per acre to perhaps a hundred. This is a high-risk period when the stand is very susceptible to wildfire and insect/disease mortality. In modern times when our forests are fragmented, contain dependent rural communities and other assets, and have intrinsic values for wildlife, aesthetics, and recreation, it is not acceptable to allow forest stands to remain in an unhealthy, high-risk condition.

6. Forest Management can enhance the Health of Forests. It has been demonstrated that prudent forest management and stewardship can lower the risk of unacceptable loss of property and resource assets through judicious thinning and prescribed burning. Adaptive, collaborative approaches can lead to sustainable forest management. A healthy forest is a sustainable forest.

7. Research and Monitoring. Prudent forest management leading to healthy, sustainable forests requires investment in research and monitoring. Increased research effort is critically needed to obtain new knowledge on how to develop and maintain healthy forests. Investments must be made to monitor suitable indicators of forest health to enable effective adaptive management.

8. Issues facing forest managers today. While forest health is not an easy term to define, and it is difficult to gain consensus as to how and what should be addressed, there are certain actions Congress and the administration can take to give forest managers the tools to improve conditions on the national forests and private lands, while maintaining both environmental protections and public participation. Many of the laws that apply to Federal forest management are outdated and need revision to ensure consistency with court decisions, other environmental laws, advances in science, and changes in public attitudes and values. Changes are also needed in a number of regulatory measures that often cause unnecessary delays that can be detrimental to time sensitive forest management projects. We are encouraged by the efforts taken to this date made through the 2002 Farm Bill and the Healthy Forests Initiative. However, a long-term solution that would change both regulations and laws is needed on both public and private lands. We will continue to offer our support to address questions and concerns.

9. Forest Health and Productivity: A Perspective of the Forestry Profession. I am leaving for your records a copy of the 1997 SAF publication Forest Health and Productivity: A Perspective of the Forestry Profession that resulted from several years of study and discussion by the Society and remains extremely relevant to current issues of forest health. Mr. Chairman, this concludes my testimony and I thank you for the opportunity to appear before your committee.

STATEMENT OF JEFFREY HARDESTY

Mr. Chairman and members of the committee, thank you for the opportunity to provide written testimony for the Committee's oversight hearing on forest health. The Nature Conservancy has a long-standing interest in abating the threats to biodiversity stemming from altered fire regimes, and I am pleased to present the Conservancy's views on this important topic. I am the U.S. Director of the Conservancy's Global Fire Initiative. I have worked in a variety of capacities for the Conservancy for 11 years, focusing on collaborating with a wide diversity of partners to integrate biodiversity conservation with community values.

In my family, fire has both personal and professional connotations. My great-great grandfather and great uncle died while fighting the big Idaho fires in 1910 that Gifford Pinchot used as leverage to create the National Forest Service. My father fought fires in Oregon and Idaho for the CCCs during the Great Depression. Ironically, it would seem, I've spent the past decade and more working with partners to reintroduce the natural role of fire to grasslands and forests across the United States.

The Nature Conservancy is dedicated to preserving the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. The Conservancy has more than 1.1 million individual members and over 1,900 corporate sponsors. We currently have programs in all 50 States and in 30 other nations. To date our organization has protected more than 14 million acres in the 50 States and Canada, and has helped local partner organizations preserve over 102 million acres in other nations. The Conservancy itself owns more than 1,340 preserves in the United States—the largest private system of nature sanctuaries in the world. Our conservation work is grounded in sound science, strong partnerships with other landowners, and tangible results at local places.

For thousands of years, fire has played a vital role in shaping North American ecosystems. Nearly all terrestrial and many wetland systems experience fire at some interval, and many include plants and animals adapted to or dependent on fire. When key attributes of a fire-adapted ecosystem are altered—for example, by forest management that creates large even-aged patches of forest or by fire suppression that increases the density of fire-intolerant trees and fuels—otherwise natural fires may burn with uncharacteristic behavior, resulting in long-term damage to communities and ecosystems.

In the U.S., altered fire regimes are the result of more than 100 years of fire exclusion, often coupled with incompatible forestry and grazing practices. The Nature Conservancy has identified more than 107 million acres of critical lands where biodiversity values are at serious risk of degradation from altered fire regimes. The problem is particularly acute in short interval, low intensity fire regimes. The trend in such areas is toward fires of increasing intensity and severity that threaten ecosystem health as well as life and property, especially in the ever-burgeoning wildland-urban interface. Nevertheless, millions of acres of ecosystems are still in good condition, and the management goal on those lands ought to be to maintain ecological processes such as fire.

It is critical that we address the problem of altered fire regimes by shifting our focus from fire suppression to management of fire-adapted ecosystems. But we will not fix the problem overnight—years of active restoration, monitoring, research, adaptive management, and citizen involvement will be required to protect human communities and restore the ecological health of our forests and grasslands. While we need to address the ecosystem health problem aggressively, we must be prudent in our actions, and commit to learning from both our successes and our missteps so we will not repeat the mistakes of the past.

Over the past 40 years The Nature Conservancy has successfully restored and maintained natural fire regimes on thousands of acres of our own lands and has worked cooperatively with State and Federal agencies and private landowners to manage fire-adapted ecosystems on hundreds of thousands of additional acres. In doing this we have developed a conservation framework that relies on adaptive management, including setting measurable ecological goals, monitoring to ensure those goals are met and working at a landscape scale.

Based on this on-the-ground experience, we believe that: Legislation is appropriate to prioritize and facilitate reduction of hazardous fuels within tightly defined wildland-urban interface (WUI) areas and water supply areas with the dual objectives of addressing immediate concerns for public safety and, through the process of adaptive management, of learning the most effective and ecologically sound methods of reducing fuel loads.

A few large fuel reduction demonstration projects are also appropriate outside the WUI. These areas should be selected based on the need for ecological restoration and their value in demonstrating how agencies, communities and scientists can work cooperatively in planning and implementing fuel reduction on a landscape scale. Expedited approval processes are not necessary or appropriate in those areas.

Lessons should be drawn from these activities that will inform and guide future efforts to reduce fuels and restore natural fire regimes.

Congress and the agencies should devote significantly more resources to appropriate treatment and restoration of altered fire regimes. The more funds are diverted for suppression, the higher the long-term cost, ecologically and financially. While at some locations fuel reduction may result in products that offset a portion

of the cost of biomass removal, priorities should be driven by public safety within the WUI, and ecological risk in the demonstration projects. In the near term, human and ecological risk reduction cannot be achieved without adequate appropriations.

In the longer run, the need to remove millions of tons of small diameter trees that currently have little economic value will be a major barrier to restoration of larger landscapes. Where thinning is ecologically, scientifically and socially acceptable, in concept we support offsetting the costs of services with the marketable by-products of restoration, especially where these activities support small businesses and local job creation. To accomplish this some form of subsidy for the creation of facilities to use biomass from fuel reduction may be appropriate. Such subsidies should be tied to high priority areas for fuels treatment within the wildland-urban interface or to the sites of large scale demonstration projects.

After opportunities for careful review, we would be happy to share with the Committee specific comments on proposed legislation.

III. The Nature Conservancy and Restoring Fire-adapted Ecosystems

The Nature Conservancy has long recognized the critical ecological role of fire in ecosystems in the U.S. and around the world. Over the past 40 years, Conservancy staff have pioneered the use of prescribed fire as an ecological management tool throughout the Conservancy's preserve system, and have helped develop similar programs with many public and private partners. We have an active fire program with professional staff, which adheres to strict standards and planning requirements and has the capacity to safely perform prescribed burns on an average of 70,000 acres per year, and to support the planning and implementation of burns on another several hundred thousand acres per year, in conjunction with our partners. We have approximately 100 prescribed fire burn boss qualified staff and approximately 400 staff trained to participate in prescribed fire activities. Through the years, the Conservancy has gained invaluable experience in the practical, technical, scientific and social aspects of fire use, built a cadre of in-house fire experts, and garnered the respect of other public and private sector fire experts.

Under the auspices of the National Fire Plan, The Nature Conservancy is working with partners to restore ecosystems and reduce hazards to communities. In 2002, the Conservancy entered into a cooperative agreement with the USDA Forest Service and Interior agencies (BLM, USFWS, NPS and BIA) that provided a vehicle for working collaboratively under the umbrella of the National Fire Plan. This cooperative agreement funds Conservancy professionals and other partners to assist the agencies and stakeholders in landscape-scale fire planning, technical training and capacity building, public education, community-based stewardship, and scientific research. This past January, The Nature Conservancy received an award from the Secretaries of Agriculture and the Interior for Excellence in Implementing the National Fire Plan.

To date, one of our most successful collaborative endeavors has been an innovative, nationwide Fire Learning Network, consisting of 25 landscape-scale projects that include more than 200 partners and approximately 45 million acres of high priority conservation areas, plus support of another 25 projects totaling an additional 20 million acres. In each of these projects, all stakeholders—from community groups to Federal agencies—come together to develop a shared vision of the desired future condition of their landscape, and learn how to overcome critical challenges related to the health of fire-adapted ecosystems. The Nature Conservancy provides expertise in ecology and fire management, and facilitates a truly collaborative process among interested landowners. The results to date have included community-based fire management plans for large landscapes and several projects have begun treatment at large scales. One of the most important goals of the Fire Learning Network is to demonstrate that it is possible to restore ecosystems while also reducing wildfire hazards to people.

The Nature Conservancy also co-chaired the Stakeholder Advisory Committee of the Federal agencies—Joint Fire Sciences Program that in 2002 allocated $16 million in funding to critical research, and plays a key staff role at the national Interagency Prescribed Fire Training Center. We hope that these partnerships with the Forest Service and the Interior agencies have helped to advance the appropriate management of fire-adapted ecosystems.

IV. Reducing the Threat of Unnatural Fires—Fundamental Principles

A. The problem of altered fire regimes. For thousands of years, fire has played a vital role in shaping North American ecosystems. Nearly all terrestrial and many wetland systems experience fire at some interval.

Many ecosystems include plants and animals adapted to or dependent on fire (fire-adapted ecosystems). Fire-adapted ecosystems are resilient to fires occurring within an historical range of variation. Changes in fire regimes lead to changes in ecosystem structure, composition and function. Fire regimes are quantified in terms of their fuel types, fire frequency, intensity, seasonality, and severity of impacts on characteristic vegetation. Fire-adapted ecosystems include a wide spectrum of characteristic fire regimes, ranging from high frequency, low severity ground fires that occur every 2 to 5 years in southeastern longleaf pine forests, to infrequent, large scale, and high intensity stand-replacing crown fires that occur naturally every 75 to 200 years in lodgepole pine forests in the intermountain West.

Ecosystems with very different fire regimes often co-exist in the same landscape. For example, Florida sand pine scrub burns with stand-replacing fires every 20 to 50 years, but is embedded in longleaf pine forests that experience ground fires every 2 to 5 years. And in many landscapes, the same fire event will have very different effects on different ecosystems. For example, some old growth, mixed conifer coastal rainforest ecosystems in the Pacific Northwest experience large fires only every 100 to 200 years, and only during severe drought. A single landscape-scale fire in these systems will behave very differently depending on overall landscape character, including presence of natural fire breaks, slope, exposure, altitude, and current vegetation structure and composition; the net effect is a mosaic of varied ecosystem types and stand ages that are a key component of these biologically and topographically diverse landscapes.

When key attributes of a fire-adapted ecosystem are altered, otherwise natural fires may burn with uncharacteristic behavior, resulting in long-term damage to communities and ecosystems. In the U.S., altered fire regimes are the result of more than 100 years of fire exclusion, often coupled with incompatible forestry and grazing practices. Where fire has been excluded or fire behavior changed by management, thousands of species have been put at risk. The Nature Conservancy has identified more than 107 million acres of critical lands where biodiversity values are at serious risk of degradation from altered fire regimes—a conservative estimate. More than 1,900 areas of conservation interest to the Conservancy and several entire ecoregions consist almost entirely of ecosystems with altered fire regimes.

Ecosystems with a history of relatively frequent and low to moderate intensity fires are especially vulnerable to uncharacteristic fire effects. The trend on many of these lands is toward fires of increasing intensity and severity. When people, subdivisions and fire-adapted ecosystems collide in the wildland-urban interface, the consequences can be catastrophic in terms of damage to life and property. Unfortunately, the result has been an increasingly costly and futile effort to suppress fires, in turn leading to escalating fire intensity and increasing the risks to life, property and the health of ecosystems.

Invasions by non-native fire-adapted plants have also significantly altered the role of fire in many ecosystems. Invasion is increasingly associated with fires occurring outside the historical range of variation. For example, non-native cheat grass has dramatically altered Great Basin sagebrush ecosystems, creating a devastating positive feedback loop (invasion-increased fire frequency-increased invasion) that has eliminated sagebrush communities across millions of acres, putting at risk many once common species such as sage grouse.

B. Fundamental Principles. We are here today because we are facing the effects of decades of missteps regarding treatment of our public forests. The scale of the problem posed by altered fire regimes is vast, and we need to devote substantial government resources to fixing it. But we will not fix the problem overnight—years of active restoration, monitoring, research, adaptive management, and citizen involvement will be required to protect human communities and restore the ecological health of fire-adapted forests, shrublands and grasslands.

The forest health problem is also complex and we must approach it thoughtfully. While there exists some urgency in addressing the problem, we need to be prudent and deliberate. If we do not treat fire-adapted ecosystems using an adaptive management approach—i.e., by committing to learning from both our successes and our mistakes—we will repeat the mistakes of the past. We cannot afford to do this. It is imperative that management decisions recognize the differences among ecosystems and fire regimes, while incorporating ecosystem dynamics, uncertainty, historical management, current conditions, and desired future conditions. Notwithstanding the efforts of the past few years, we still have insufficient data on what sorts of treatments help to reduce fire risk while also restoring ecosystem health. No one type of management will be appropriate everywhere, and not all areas should be treated until we know the most effective ways to treat them. For this reason, management must be coupled with monitoring designed to evaluate the results

and provide guidance for future management actions. While location-specific adjustments are essential, the following general principles are widely applicable.

Large-scale suppression is a losing and very costly proposition. Over time, markedly shifting the management emphasis toward prescribed fire and wildland fire use will be the cheapest and most ecologically sustainable option in many ecosystems.

While fire suppression will continue to play an important and vital role in protecting people and sometimes ecosystems from wildfires, we advocate a much greater investment in fire use, including both prescribed fire and managed wildland fire (that is, managing wildfires in wildlands to meet stated objectives where the threat to people is low). If applied appropriately and at scale, proactive fire use will save hundreds of millions of dollars over time while allowing fire to act as a beneficial natural process and reducing overall risks to firefighters and communities. As was dramatically illustrated during the 2002 fires in the West, several areas that had been previously treated with prescribed fire suffered little ecological damage, and a number of otherwise threatened subdivisions were protected. Similarly, during the disastrous 1998 wildfire season in Florida, the Ocala National Forest and several State parks, which have an extensive prescribed fire program, suffered far less damage than surrounding private lands.

Even where fire is used proactively, most prescribed fire and wildland fire use plans lack clearly stated ecological or fuels reduction objectives. Measures tend to focus on acres blackened not on desired ecological or hazardous fuel outcomes. Managed wildland fire and

prescribed fire are underused for a variety of reasons, including the fact that fire suppression is first in line when resources are allocated; agencies are behind in developing wildland fire and prescribed fire plans; and managers lack appropriate incentives and rewards. In fact, perverse counter incentives exist owing to the real or perceived career risks associated with proactive fire use.

Restoration of fire-adapted ecosystems must be driven by ecological objectives and desired future conditions.

As Chief Bosworth has stated, management must focus on what we leave on the land, not what we take away. Restoration objectives must be scientifically defensible and adaptive or we risk repeating the mistakes of the past. The history of forest and fire management in the U.S. demonstrates that management prescriptions aimed at preventing fires in the short-term may cause more long-term harm than good, by degrading ecosystems or exacerbating risks to people. In some ecosystems, logging and forest thinning may actually increase fire hazards by creating even-aged single-species stands of fire-intolerant younger trees, making forests more susceptible to windthrow, or increasing fuel flammability by allowing more sunlight on the forest floor, while in others, thinning will be an invaluable adjunct to prescribed fire.

Projects should be designed to facilitate learning and provide accountability via adaptive management, including developing measurable ecological objectives and conducting appropriate monitoring.

Management of altered fire regimes calls for humility and prudence, while the threat of altered fire regimes calls for immediate action. Yet, the long history of forest management in the United States and around the world clearly demonstrates that despite our best intentions we will inevitably make mistakes. Judging whether hazard reduction and ecosystem restoration goals have been met, and learning from missteps, requires that management be coupled with monitoring in a landscape-scale adaptive management framework. For many of the reasons described above, adaptive management is the smartest way to achieve desired end results. But few projects include even the most basic components of adaptive management, such as setting measurable ecological objectives or following through with simple monitoring. At present, agencies devote so little funding or other resources to monitoring, that it is difficult to determine whether projects are leading to either significant reduction of fire hazards or improved ecological health.

What do we mean by adaptive management as applied to restoration of fire-adapted ecosystems? The Nature Conservancy has developed a conservation approach over the past two decades that we use in landscape-scale restoration of fire-adapted ecosystems. The approach can be applied at any scale, and in virtually any social setting or set of resource limitations. We believe this approach meets the standards necessary to ensure the best restoration and conservation practices possible. Among others, key features include developing measurable objectives at landscape and project scales; using management experiments and monitoring to learn and progressively refine alternative prescriptions and treatments; and instituting a concrete process for measuring progress and adapting action.

This approach to adaptive management does not need to impose undue burdens on the agencies, and in fact will save money in the long run. In our experience,

adaptive management is not inconsistent with cost-effective restoration. First, a well-designed monitoring program can be strategically focused on a few resources or triggering events, and need not be overly burdensome. Second, data gathered through monitoring in one project is often exportable, resulting in simplified monitoring requirements for projects in similar ecosystems. Third, doing restoration right—with early community buy-in, and management adjustments based on credible data—will ensure the best chance of real restoration, which means lower management costs in the future, as well as reduced risks of unnatural fire and accompanying high costs of fire suppression.

At a minimum, we believe that agencies should adopt as standard practice in all projects the following:

• Develop objectives that are ecosystem-specific, measurable, and define restoration and fuel reduction end results.

• Monitor and assess progress toward desired future condition at both landscape and project scales.

Fire is a landscape-scale process. Treatment methods must recognize that fires occur across entire landscapes and ecosystems, and effective fire management planning must occur at the landscape level. The size of an area that represents a landscape will differ depending on the ecosystem but is often on the order of hundreds of thousands of acres. Even within large landscapes, there will be variations in type of treatment depending on the ecosystem type, and in many areas, it will be appropriate to do no treatment at all.

The ongoing BLM and Forest Service Plan revision processes provide an excellent opportunity to ensure that landscape-level fire planning is undertaken and is integrated with other factors in the planning process. Directions to design projects based on landscape-scale analysis should also be part of the agencies' current fire planning efforts.ecosystems, so should objectives and treatments—in other words, one size management will not fit all ecosystems.

In some ecosystem types, such as lodgepole pine forests that cover millions of acres in the West, infrequent but high intensity, large-scale fires are natural events (e.g., 1988 fires in the lodgepole pine forests of the Greater Yellowstone Ecosystem). In these ecosystem types, communities would be wise to adapt building codes and encourage rational development patterns that reflect risks and minimize the threat to public safety, as well as take aggressive action in the urban-wildland interface. In other ecosystems, such as ponderosa pine forests with naturally short fire return intervals, unnaturally intense fires are the result of past fire exclusion coupled with ecologically unsound logging and grazing practices, threatening both ecosystem integrity and human health and safety. In these systems, mimicking a known historical ecosystem structure via thinning and a natural fire regime with prescribed fire will likely reverse ecosystem degradation, while also reducing risks to people where altered fire regimes are adjacent to urbanized areas.

Many restoration and hazard reduction tools are available, but each has different benefits, costs and risks. In many places, prescribed fire and ″managed wildland fires″ are clearly the tools of choice, though they are greatly underused relative to their benefits and costs. In any case, wildfires will continue to burn despite suppression efforts and many will produce desirable ecological outcomes where ecosystem structure and function occur within the range of historical variation. Many other places will require more costly management, including some combination of thinning of non-merchantable small diameter trees, re-vegetation with native species, control of non-native invasive species, and creation of fuel breaks to protect human infrastructure. As with any prescription, where and when to use thinning as has to be informed by the best available scientific understanding of ecosystem dynamics. Unless these treatments also are coupled with prescribed fire or exposure to natural wildfire consistent with historical frequency and intensity, costly restoration and hazard reduction gains will quickly be lost.

Complete and adequate restoration and rehabilitation cannot be accomplished without use of native plant materials.

Restoration of fire-adapted ecosystems will require a focus on more than just reduction of fuel loads through prescribed fire and mechanical treatments. An equal focus on restoring native plant communities is essential to the long-term success of these projects including the use of native seed and seedlings during fire rehabilitation, fuels reduction and ecosystem restoration projects, and following other invasive species treatments. In order to ensure that sufficient native plant materials from appropriate geographic locations, elevations and climatic zones are available at reasonable cost, continued support for the interagency Native Plant Materials program through National Fire Plan funding is essential. This partnership includes Federal and State agencies, non-profit botanic gardens, and commercial seed growers and nurseries working together to significantly increase the native seed supply.

Engaging local communities in collaborative planning, implementation and measuring results will yield better, speedier and more sustainable decisions and results over the long-term. Sometimes you have to go slower to go faster.

A number of collaborative, voluntary and inclusive community-planning approaches have been developed and tested over the past decade. Many of these efforts are landscape-scale in scope, and encompass multiple public and private ownerships and projects under one umbrella plan. Although there are no guarantees, it has been our experience that bringing stakeholders together to voluntarily plan across ownerships often results in projects that are implemented with maximum buy-in and a minimum of costly and time-consuming delays and third-party challenges. Under a community-based adaptive management framework, planning can include NEPA public involvement and appeal processes. When disputes arise, individual projects or problem areas can be pulled out of larger plans for dispute resolution and more detailed planning. Consideration of alternatives is also a tool for dispute resolution as well as analysis.

Ecosystems, wildfires and fire hazards cross political and legal boundaries. Yet currently, Federal land managers do not always take full advantage of authorities (e.g., the Wyden amendment) that allow them to collaboratively plan, work on or support cross-boundary projects with State agencies and willing neighboring private landowners. We will not be successful at either ecosystem restoration or reducing hazards to people if we continue to think, plan and act at small scales or only within the boundaries of individual public or private ownerships.

Success over the long-term demands that today's investments in ecological restoration and hazard reduction be maintained through sustained commitments of funding and management action over the long-term.

As noted above, Congress and the agencies must devote more resources to appropriate treatment and restoration of altered fire regimes. The more funds are diverted for suppression, the higher the long-term cost, ecologically and financially. In 2000, Federal suppression costs exceeded $1.3 billion. At the time this was viewed as an anomaly, yet it was surpassed in 2002.

In large fire years, fire-fighting requires that Federal agencies shift funds internally from other programs to pay suppression costs. In the short-term, this means that already approved and funded high priority restoration and hazard reduction projects are not completed, are delayed, or in some cases are canceled for lack of funding, further exacerbating both near- and long-term problems. Congress usually appropriates emergency funds to replenish suppression costs, but not always the full amount of funds expended. This approach will continue to be a major barrier to restoration until Congress creates a vehicle to protect restoration funds from extraordinary fire suppression costs. It is critical that Congress fund, and the agencies use, adequate investments for comprehensive large scale treatment of the altered fire regime/excessive fuel load problem on forested public lands.

V. Reducing the Threat of Unnatural Fires—A Policy Approach

As discussed earlier, the problem of altered fire regimes has two components. First, fire suppression and increasing fuel loads have caused risk to human communities and public welfare. Second, the same causes pose severe threats to ecosystems. As much of the recent proposed legislation recognizes, these two areas —places where communities are threatened, and landscapes extending beyond those places—should be addressed in separate but related ways. In our view, legislation should prioritize hazardous fuels reduction projects where there is a risk to human communities, and should also recognize the need to begin the methodical treatment of areas, at a landscape scale, where the principle threat is to biodiversity. If adaptive management (including ecological objectives and monitoring) is applied to all of these projects, we will gain valuable knowledge that will result in more cost-efficient and effective restoration of altered fire regimes, leading to greater protection of human lives and property as well as biodiversity.

Treatments where communities are threatened. Because of the need to do hazardous fuels reduction to protect property and life, it is important to prioritize projects in the wildland-urban interface (WUI) and areas where municipal water supplies are threatened. If these fuels reduction projects are undertaken with the adaptive management principles described above, we can learn important lessons about how to manage larger ecosystems. For example, a particular project in the WUI, based on collaborative process and monitoring, will inform how fuels reduction and ecological restoration should be done in the larger ecosystem that contains that WUI area. Using the WUI projects to try different treatment methods, gather important data and obtain community support will likely reduce the need for lengthy analysis and

monitoring of projects in similar ecosystems, and will also reduce the risk of later mistakes in those ecosystems.

Because of the need for expedited actions to ensure fuel reduction, some simplifying of NEPA procedures is appropriate in narrowly-defined wildland-urban interface areas where communities are directly threatened.

Treatments where larger ecosystems are threatened. In some areas, landscape scale treatments will be necessary beyond the wildland-urban interface. We recommend that the Forest Service and BLM focus strategically on a few landscape scale areas that are critically in need of hazardous fuels reduction for protection of communities and biodiversity. These areas should be selected based on their need for restoration through treatment, on the level of risk posed by existing conditions, and on the prospects for successful collaboration with surrounding communities and other stakeholders. As with treatments in the WUI, adaptive management should be a guiding framework, and lessons learned from these projects can be exported to similar ecosystems in need of treatment.

NEPA procedures should apply to the planning of such projects, but careful and collaborative goal setting, community involvement, and adaptive management should be used to demonstrate if and how such projects can move forward in a timely way within the framework of those procedures.

Adequate funding is essential for the success of this approach. Fuels treatment particularly within the WUI, requires adequate Federal appropriations. All evidence suggests that such expenditures are less than the cost of fire suppression and the damage caused by cataclysmic wildfires. While utilization of the products of fuel reduction may be able to offset some of the cost, priority setting should be driven by risk assessment not by the value of wood that might result from thinning.

Biomass utilization can reduce public expenditures if it becomes part of fuel reduction planning. The need to remove from forests and grasslands millions of tons of small diameter trees that currently have little economic value is a major barrier to restoration in many places. The biggest challenges are lack of markets and the current low value of small trees. Where thinning is ecologically, scientifically and socially acceptable, in concept we support offsetting the costs of services with the marketable by-products of restoration, especially where these activities support small businesses and local job creation. Programs to subsidize facilities to utilize biomass should be implemented in conjunction with landscape scale fuel reduction in areas where threat assessment suggests that such projects are appropriate. Secondly, treatments themselves should be based on scientifically credible ecosystem restoration and hazard reduction goals and not simply the desire to support local jobs. With these caveats The Nature Conservancy supports active Federal and State investment in research and small grant programs aimed at creating technologies and catalyzing the efforts of local entrepreneurs.

We believe that the approach described above would provide immediate reduction in human risks while developing the foundation in knowledge, experience and process for addressing the large scale threats of altered fire regimes.

Thank you again for the opportunity to testify on behalf of The Nature Conservancy. We would be happy to provide the Committee with further information or to work with the committee on legislative solutions that would meet the critical goal of restoring fire-adapted ecosystems to protect human lives and property as well as to preserve the diversity of life on Earth.

STATEMENT OF STEVEN W. KOEHN

On behalf of the National Association of State Foresters, I am pleased to testify on the President's Healthy Forests Initiative. NASF is a non-profit organization that represents the directors of the State forestry agencies from all 50 States, eight U.S. territories, and the District of Columbia. State Foresters manage and protect State and private forests across the U.S., which together encompass two-thirds of the nation's forests.

I am representing NASF in my role as Chairman of the Water Resources Committee. In recent years, the Water Resources Committee has taken the lead in development of proposed legislation to improve management of forested watersheds on non-industrial private lands. We believe the concepts of healthy forests and healthy watersheds are inextricably intertwined.

With approximately 190 million acres of Federal lands now at risk to wildfire, and more than 70 million acres of all forestland ownerships at risk to increased mortality from insects and diseases over the next 15 years, it is essential that steps are taken to improve the condition of our forest resources. Such steps will protect communities, watersheds, wildlife habitat, recreation opportunities, and the quality of

our air and water, and will ultimately reduce the costs (environmental, social and economic) of catastrophic wildfire.

NEED TO REDUCE HAZARDOUS FOREST FUELS

NASF has been deeply involved in the development and now, implementation, of the 10-year Comprehensive Strategy for a Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, dated May 2002. This document was developed pursuant to the conference report for the Interior Appropriations Act of 2001 and was endorsed by the Western and Southern Governors Associations. We have a State Forester serving on the Wildland Fire Leadership Council, which was established by the Secretaries of Agriculture and the Interior. We have been supportive of the recent administrative efforts to facilitate implementation of the 10-Year Strategy, and we support additional legislative efforts that are consistent with the 10-Year Strategy and accompanying Implementation Plan. We believe that the Healthy Forest Restoration Act, introduced this week by Rep. McInnis and others, supports these efforts.

State Foresters recognize the importance and urgency of reducing the hazards to communities at risk of catastrophic fire. To do this, we must address hazards within the wildland-urban interface, but I must caution that the hazards are more than local in scope. To fully accomplish the goals of the 10-year Strategy and Implementation Plan, we must look at the larger landscape and address the forest health and watershed issues on all ownerships. We note that the legislation introduced by Rep. McInnis and others takes this approach.

WATERSHED FORESTRY ASSISTANCE PROGRAM PROVIDES ADDITIONAL BENEFITS TO THE HEALTHY FORESTS INITIATIVE

NASF recommends the inclusion of our proposed Watershed Forestry Assistance Program in any Healthy Forests legislation. Because of my long involvement with the Chesapeake Bay restoration effort, I am particularly supportive of this effort. We developed and proposed the Watershed Forestry Assistance Program to improve forested watersheds on non-industrial private forestlands. The initiative was considered last year as a part of the 2002 Farm Bill, where it received bipartisan support in the Senate. By offering incentives to improve the condition of these forested watersheds, the program would contribute significant benefits to the Healthy Forests Initiative.

The discussions surrounding the Healthy Forests Initiative were initiated by the unsustainable conditions of western forests, primarily on public lands. As important as these issues are, there are also important forest health and watershed concerns on all forestlands—public and private, large owners and small owners—across the country. The Watershed Forestry Assistance Program brings emphasis to the national relevance of the Healthy Forests Initiative.

Although ownership patterns and local conditions differ widely between regions, the protection and management of watersheds for the production of clean water is a critical issue everywhere. In the eastern U.S., where I live and work, this is particularly true, since 90 percent of the forestland is privately owned. The private forests of the northeast and southeast together produce two-thirds of the water we need for recreation and for fish and wildlife habitat. They also provide the drinking water supply for millions of Americans in the east. In addition to environmental benefits, these same private ownerships produce over 50 percent of the Nation's wood and paper products.

The health of eastern forests is threatened by invasive pests and plants, fire, overcrowding, poor regeneration, and land-use fragmentation. Loss of forests is directly affecting the ability of some watersheds to sustain quality water supplies. The conservation, restoration, and stewardship of healthy private forestland is viewed as crucial to watershed health in the U.S.

In the West, the Watershed Forestry Assistance Program is no less important. For example, it can provide assistance to landowners for the rehabilitation and restoration of burned watersheds to limit soil erosion and benefit community drinking water supplies. Effective partnerships can address these issues before they become more overwhelming.

ENVIRONMENTAL AND ECONOMIC BENEFITS OF UTILIZING SMALL, NONCOMMERCIAL WOOD FROM OVERCROWDED FORESTS

NASF supports forest biomass utilization as a tool to help reduce unnaturally dense forest fuels and the associated risks posed to communities and watersheds. Utilizing forest biomass from overstocked or unhealthy forest stands can also be an

effective way to reduce the costs of treating hazardous forest fuels. Making use of otherwise non-commercial wood products can bring environmental benefits by supporting the production of renewable energy and lowering wildfire risks, thereby reducing the amount of carbon released in the atmosphere by catastrophic wildfires.

V. IMPACTS OF FOREST PESTS ON HEALTHY FORESTS

Provisions to enhance research programs to address forest pests will also help carry out the Healthy Forests Initiative on all lands. Accelerating efforts to address new invasive pests and providing additional assistance to aggressively implement pest management strategies would be helpful to all landowners and serve the public interest.

For example, Maryland has been dealing with hemlock wooly adelgid for several years now. If left unchecked, naturally occurring stands of hemlock, which are important in helping to maintain cold water fisheries, will be impacted with the same detrimental effects seen in adjacent mid-Atlantic States. Many other forest pests significantly impact our Nation's forests, from the southern pine beetle, to the non-native emerald ash borer that is devastating forests of the midwest, to sudden oak death in the west, just to name a few. Noxious and invasive weeds also threaten our forests and are in need of aggressive control. Accelerating the work to address these and other forest pests through authorization and funding is critical to improving the health of our Nation's forests.

Legislation that will enhance public and private land managers efforts to improve forest health and provide for healthy watersheds will benefit the public and the environment, and is simply good management.

On behalf of the National Association of State Foresters, I urge the committee to include all of the above programs in legislation to carry out the President's Healthy Forests Initiative. These measures are designed to address and improve forest health on public and private lands, consistent with the National Fire Plan 10-Year Strategy and Implementation Plan. In particular, I will remind you that the Watershed Forestry Assistance Program proposed by NASF will provide benefits nationwide. The improvement of watershed conditions on private forestlands will complement the other goals of the Healthy Forests Initiative by enhancing water quality and quantity generated from our Nation's forestlands.

Our abundant and magnificent forests helped to build our Nation. Wise and sustainable forest policy, that recognizes the importance of healthy and resilient forests, will help to assure its continued strength. I thank the Committee for the opportunity to testify today, and I would be happy to answer any questions.

Statement of James K. Walls, Executive Director for
Lake County Resources Initiative

Before the U.S. House of Representatives Committee on Agriculture

Hearing on President's Healthy Forests Initiative

April 30, 2002

It is an honor to be here and testify before this distinguished committee on the President's Healthy Forests Initiative. Lake County is 75% federal lands with the Fremont-Winema National Forests and Bureau of Land Management being the biggest landowners. Lake County is in the south central dry interior of the state of Oregon. The Fremont portion of the National Forest lies roughly between the towns of Lakeview, Klamath Falls and Bend, Oregon just North of the California/Oregon border. The major tree species include ponderosa pine, juniper, lodgepole pine, and at higher elevations white fir. Most of these trees are adapted to summer drought and extreme temperature fluctuations due to the arid nature of the region (FNF 2003). The 10-20 inches average precipitation occurs from the autumn through the spring and as a result the summers are dry and hot (Oregon State University 2003). At the height of logging Lake County supported 5 mills; today one remains the Fremont Sawmill owned by The Collins Company. As a result of the curtailment of logging, Lake County was the only county in Oregon that experienced a net job loss during the 1990's" (Kauffman 2001).

Historically, forest management of the Fremont focused on aggressive fire suppression and logging of large old-growth ponderosa pine trees. Consequently, forest composition and natural fire disturbance regimes have been dramatically altered, increasing the risk that abnormally intense fires, insects, and disease will devastate the remaining old-growth and other forest ecosystems. The impact of fire suppression and old-growth logging is greatest on the low-elevation ponderosa pine and mid elevation mixed conifers. Many areas have missed 7 to 10 fire-return intervals, and mature forests of large, widely spaced trees have declined more that 50 percent from historical levels. Middle-aged forests, less than 100 years old, are substantially more common than they were historically.

In cooperation with the University of Washington we just finished a study of the fire hazard class on the Fremont. We found that 63% of the forest is in the high and moderate fire hazard class. As a result of drought the consequences of having these high fuel loads has become apparent over the past couple of years with catastrophic fires burning large acres. The University of Washington, Yale University and Pacific Northwest Research Station developed a forest planning model, Landscape Management System (LMS), which incorporates the latest science allowing us to plan forests out into the future for over 100 years. LMS allows us to analyze environmental and economic impacts over time and incorporates a monitoring system so as we expand our scientific knowledge and discover modeling discrepancies with what is actually happening on the ground, we can make modifications to model so it more truly reflects what is happening in the forest.

In the study we looked at different thinnings prescriptions to reduce the conditions that lead to intense, catastrophic fire events. We found that you can not just remove small less than 9" or just trees greater than 12" and substantially reduce fire hazard on the forest. The way to reduce fire hazard is to go do thinnings by a basal area prescription that opens up the canopy and removes a combination of large and small material. This is actually what the Ponderosa Pine Savanna forests evolved to before we began high grading the pine and suppressing fire. Restoring forests back to more natural conditions widens the spacing between trees, reducing the stress that has lead to increased insect and disease attacks and corresponding high fuel loads. In our moderately sloped mountains these types of thinnings can actual pay for themselves. Depending on logging costs and thinning prescriptions on the Fremont we could see net returns from a negative - $370/acre to a positive $555/acre depending upon the prescription.

In the University of Washington study we utilized growth models contained in the LMS program to look over time at what kind of volume would have to be harvested and how many jobs would be created to reduce fire hazards within 20 years. Just to reduce fire hazard to a moderate level in 20 years on the Fremont we would be removing in the range of 250,000 to 350,000 tons/year of biomass creating from 150 to 250 direct jobs and approximately twice as many indirect jobs. Restoring forests to natural fire regimes, species and structural characteristics common 100 years ago creates a win-win situation. As shown, it creates jobs, reduces fire threats and restores forest to more natural conditions.

The problem we face is the Forest Service budget is being spent on fires and not on thinnings. On the Fremont-Winema National Forest we have 20,000 acres of thinnings, NEPA approved, sitting on the shelve and no funds to contract the work out. Congress needs to make the necessary investment to restore our National Forests.

What are the costs if we do not carry out this work? Work done by the University of Washington and Washington State University found that thinnings of low value, predominantly small diameter trees are evaluated exclusively from a harvest cost to log return perspective, the bottom line is a substantial economic loss. Small piece sizes result in costly handling. Long hauls to scarce and distant markets add further to the high cost of harvest and delivery which, when charged against the low market value of small logs results in a net loss of $345/acre. We, however, need to look at the cost of fires versus the cost of reducing fuel loads. The University of Washington, Rural Technology Initiative looked at fire fighting costs over a 10 year period (1992-2002) and when discounted over time the cost ranges from $271/acre to $564/acre depending upon the fire occurrence for a specific forest. The Fremont is on a 10-20 year interval and would be at the higher end of costs. This does not include the cost from loss of life, regeneration costs, lost property costs and other values that might be taken into consideration. The loss of timber value from this same period ranged from $978/acre to $2022/acre. We believe this demonstrates that an investment in thinning and reducing fuel loads is a wise economic decision and use of public funds.

There are those that say forest thinnings will never be endorsed by environmental groups and we will be held up in litigation. Our experience is that this is not true as shown by the collaborative effort we did locally with The Wilderness Society, Defenders of Wildlife and others to get the Lakeview Federal Sustained Yield Unit reauthorized and

that was accomplished January, 2001. These same environmental groups continue to meet as the Lakeview Stewardship Group that also includes timber industry, ranchers and local leaders. The group just endorsed a salvage sale and sent a letter during the public comment period to the Forest Service endorsing the preferred alternative. There was a hint that another environmental group would appeal and one of the National Environmental groups involved in this collaborative effort took the endorsement letter to that group letting them know that others in the environmental community supported the sale. Everyone in this collaborative effort believes in the need to perform thinnings and we can get the job done environmentally correct while improving forest health, providing material to industry and providing jobs. We are going to utilize LMS to developed thinnings options with the Lakeview Stewardship Group participating in development of the alternatives. We have learned that having this upfront participation reduces concerns and the need to use the legal system. More and more rural timber communities are involved in these collaborative processes because we are tired of the pendulum swinging from one extreme to the other and being caught in the middle. There is a middle ground and we are determined to get there for our families and our communities sake. On the Fremont we plan to evaluate and utilize all the tools available under the President's Healthy Forests Initiative (Stewardship contracts, goods for services, best value contracting, etc.). While there is concern about some of these mechanisms, they are only tools and how they are used determines if it is good or bad. The collaborative effort we believe in will serve as an example how to utilize these tools in a manner that most would agree is good for the environment and those working in the woods.

Congress can help by investing in a consistent thinning program. Since there is such a large volume of small diameter material that needs to be removed we need investments in biomass plants that can utilize volumes of material. Current electrical prices make these small rural biomass plants uneconomical. There are efforts in Congress to provide a chip subsidy for biomass in the range of $10-$20/ton. I would like to encourage members of congress to not provide a subsidy for one business, as this does not allow us to put this small material to highest and best economic use and gives one industry an unfair advantage over another business that utilizes the same size material. A subsidy is justified but would be better given to the business doing the thinnings. This way existing biomass plants will not be able to just pocket the subsidy or just extend their economic haul distance. Maybe a better way to assist the biomass industry is to guarantee a minimum price of approximately $0.06/kilowatt hour for plants 15 megawatts and smaller. The current Senate energy bill has a "Renewable Portfolio Standard" that would require our society to obtain as much as 20 percent of its energy from nonhydro, renewable sources by the year 2020 and this could assist in making small biomass plants profitable.

Another way to finance thinnings and biomass maybe the fledgling carbon market that is already a $4 billion-a-year market and many expect the greenhouse gas market to be fully commoditized within 10 years, exceeding $10 billion a year. In the 1940's Congress passed the Sustained Yield Act and in those Federal Sustained Yield Units is an objective, "amelioration of climate change". We have been involved with fourteen research institutions and utilizing LMS can calculate carbon dioxide uptake through forest management, forest product storage and green energy utilization. Could the Forest Service sell carbon credits on the International market, might be worth investigating.

Lake County Resources Initiative is looking into this opportunity and undertaking a pilot project on private and Forest Service lands to see how the carbon credit sales could work. Oregon law requires all new power plants to mitigate their carbon dioxide emissions and currently millions are being spent in South America for fast growing plantations to meet these obligations. We believe that these credit purchases should be here at home to create jobs and improve forest health.

I believe with the catastrophic fires we been having has gotten the general public's attention and they will welcome an approach that is environmental sound and helps stimulate the economy. What we are trying to do in Lake County fits with the President's Healthy Forest Initiative and can be a win-win for everybody concerned with our National forests and the methods utilized can be replicated anywhere in the county.

United States Department of Agriculture

Office of the Secretary
Washington, D.C. 20250

MAY - 8 2003

The Honorable Mike Thompson
119 Cannon House Office Building
Washington, DC 20515-0501

Dear Congressman Thompson:

Enclosed please find USDA's response to questions submitted on May 6, 2003 regarding the April 30, 2003 hearing on the Healthy Forests Initiative. Thank you for your questions and your willingness to take proactive steps to protect our forests, watersheds and communities from catastrophic fires. You also requested language addressing changes to H.R. 1904. This is attached.

If you have any further questions, please contact Tina J. Terrell, Legislative Affairs Staff at (202) 205-0580.

Sincerely,

MARK REY
Under Secretary
Natural Resources and Environment

Enclosures

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Hearing on the Healthy Forests Initiative
United States House of Representatives
Committee on Agriculture

1. Are there safeguards in place to help prevent sedimentation of streams throughout the thinning projects? This includes buffer zones along Class 1, 2 and 3 streams as well as upslope sedimentation protections. This is of great importance to the communities in the Pacific Northwest where nearly every community is affected by threatened or endangered anadromous fish.

Answer:
In implementing projects, including thinning projects, under the Healthy Forests Initiative, units will be required to plan and conduct hazardous fuels reduction projects in a manner consistent with the land and resource management plan. Each forest plan identifies standards and guidelines for protecting riparian areas. It is through the proper application, monitoring and updating of these State certified and United States Environmental Protection Agency approved practices and procedures that the Forest Service will meet its obligations for compliance with water quality standards.

National Forests in California must adhere to very strict standards and guidelines that have been incorporated into land and resource management plans from the Northwest Forest Plan, the Sierra Nevada Framework, and other large-scale management plans developed to protect threatened and endangered species. Riparian reserves that have been designated in the Northwest Forest Plan would be protected under the Aquatic Conservation Strategy, as standards and guidelines were developed that prohibit and regulate activities in these areas. These riparian reserves include those portions of a watershed directly coupled to streams and rivers, that is, the portions of a watershed required for maintaining hydrologic, geomorphic, and ecologic processes. The widths or buffers of a riparian reserve is identified in the Northwest Forest Plan and applies to all watersheds until a watershed analysis is completed or a site-specific analysis is conducted.

When implementing hazardous fuels reduction projects on national forests, Best Management Practices (BMP's) would be implemented to minimize impacts on the watershed, and monitoring would occur to evaluate the implementation and effectiveness of the BMP's.

2. Thinning projects may require the building of additional roads on either public or private lands. Will considerations be made for fish passage and stream sedimentation reduction for all new roads constructed under this legislation?

Answer:
Yes, consideration will be given to maintain or develop fish passages. All hazardous fuels reduction projects must be conducted in a manner that is consistent with the land and resource management plan. As stipulated in the answer to #1, standards and guidelines will be followed, including those guidelines that refer to protecting riparian areas and reducing impacts to streams from sedimentation. Roads that are built to access hazardous fuels reduction projects will either be used in future years, or be decommissioned, and the area re-vegetated and restored.

If a road is to be used in future years, the unit will have to include this road in their Roads Analysis Process, which is required by the January 2001 Forest Service Road Management Policy. This policy provides a method to evaluate the amount of roads that a national forest can sustain indefinitely in full compliance with environmental and safety laws at the current maintenance funding levels. Roads analysis is required as part of the Forest Land Management Plan revision process.

In protecting fish passage on existing roads, the agency has completed surveys of most culverts in Region 10 (Alaska), Region 6 (Oregon and Washington), Region 4 (Utah and southern Idaho) and portions of Region 1 (Montana and northern Idaho). Surveys are being conducted in other Regions, including California. We are currently addressing known passage problems on a priority basis in key watersheds. We are identifying sites in coordination with our federal, state and tribal partners and are seeking to maximize the return on our investments by selecting sites that will provide the greatest increased access to priority habitat with the least investment.

3. Will environmental and stream protection laws apply to activities conducted under Title II – Biomass?

Answer:
Yes. When a unit identifies a biomass-thinning project as a hazardous fuels reduction project, an environmental analysis will be conducted. The level and intensity of the analysis will depend on the scope and location of the individual project. All hazardous fuels reduction projects shall be planned and conducted in a manner consistent with the relevant land and resource management plan and all existing environmental laws and regulations.

A separate analysis shows nearly 73 million acres of NFS forestland are prone to catastrophic fire based on current condition and departure from historic fire regimes (Fire Regimes 1& 2 and Condition Classes 2&3). Based on these two maps, approximately 9.5 million acres are at risk to both pests caused mortality and fire.

Invasive species of insects, diseases and plants continue to impact our native ecosystems by causing mortality to, or displacement of, native vegetation. Invasive species also negatively impact federally listed endangered species. The National Fire Plan has enhanced our efforts to prevent and suppress insect and disease outbreaks. Insect and disease prevention and suppression treatments were completed on 1.6 million acres of forest lands in 2002.

Finally, you inquired about the procedures for amending or revising the standards and guidelines in land and resource management plans. As indicated in my answers to questions #1 and #2, a hazardous fuels reduction project must be consistent with a land and resource management plan. All national forests must complete a land and resource management plan as stated in the National Forest Management Act of 1976 (NFMA). NFMA also requires Land and Resource Management Plans (LRMPs) be revised every 15 years. This requirement recognizes that LRMPs need to be examined periodically to ensure management assumptions and guidance is correct, and new scientific information becomes available. The primary process for ensuring that planning direction is kept current is the amendment process.

A forest plan may also be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the plan have changed significantly or when changes in Resource Planning Act policies, goals, or objectives would have a significant effect on forest level programs. During the monitoring and evaluation process, an agency's interdisciplinary team may recommend a revision of the forest plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of a forest plan. The Forest Supervisor shall review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have change significantly. All amendments and revisions are subject to public notice and comment, environmental review under the National Environmental Policy Act, and administrative appeal.

Suggested Committee Report Language

During Committee consideration of H.R. 1904, concerns were raised regarding the impact of the bill on the conservation of anadromous fish and new road construction. It is the Committee's intent that nothing in this bill should affect the level of analysis required for the protection of anadromous fish through the establishment of buffers, or the planning and construction of a road which will comply with all applicable laws regarding fish passages and sedimentation. This intent is reflected in correspondence, included in this report, between the Department of Agriculture and Congressman Thompson.

AF&PA®

AMERICAN FOREST & PAPER ASSOCIATION
Office of the President

April 29, 2003

The Honorable Robert Goodlatte
Chairman
Committee on Agriculture
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The American Forest & Paper Association (AF&PA) strongly supports your efforts to craft a bi-partisan bill to address the forest health crisis on our public lands, while supporting the efforts of private forest land-owners to protect water quality and enhance wildlife habitat on all forests. The Healthy Forests Reform Act (HFRA) takes bold steps to address these issues.

As the national trade association of the forest products industry, AF&PA represents approximately 200 member companies and allied associations engaged in the growing, harvesting, and processing of wood fiber. Forest products companies own and manage more than 14 percent of the Nation's forests. Like all private landowners, we are extremely concerned about protecting our forests from catastrophic fires, insects, and disease outbreaks that increasingly originate on our public lands. The HFRA will help reduce the threat of catastrophic fires while taking steps to reverse the decline in forest health on our public lands.

We were greatly encouraged by the President's call for a Healthy Forests Initiative. The HFRA follows up on that call to streamline the bureaucratic, cumbersome processes that prevent necessary forest health treatments, and takes steps to help protect and improve water quality and wildlife habitat on private lands. The bill also gives the Forest Service new direction to focus on a targeted list of emerging forest pests.

We also urge you to ensure that adequate funding is provided to help carry out the Healthy Forests Initiative and the National Fire Plan. Key activities like burned area rehabilitation, insect and disease control, and hazardous fuels reduction must be funded adequately to restore the health of our public forests.

Thank you for your leadership in shepherding the Healthy Forests Reform Act through the legislative process so that professional land managers may have these important new tools as soon as possible.

With kindest personal regards, I remain,

Sincerely yours,

W. Henson Moore
President and Chief Executive Officer

1111 Nineteenth Street, NW, Suite 800 ▮ Washington, DC 20036 ▮ 202 463-2700 Fax: 202 463-2040

Forest Health and Productivity

A Perspective of the Forestry Profession

Society of American Foresters
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Forest Health and Productivity

A Perspective of the Forestry Profession

A Report of the
Society of American Foresters

Prepared by the
National Committee on
Forest Health & Productivity

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Forest Health and Productivity

A Perspective of the Forestry Profession

Executive Summary

Background

The health and productivity of forests in the United States is a subject of continuing interest. Many people, including professional foresters, believe there are serious forest health problems in many parts of the country.

Several years of study and discussion within the Society of American Foresters culminated in this report by the SAF national committee on forest health and productivity. The report was subsequently endorsed by the SAF Council. Its findings and conclusions are summarized below. Taken together as a set of principles and guidelines, they should foster understanding of the issue's complexity, and serve as a focal point for discussions which may lead to better analysis and resolution of forest health and productivity issues.

Findings and Conclusions

- Forest health and forest productivity mean different things to different people.
- Assessment of forest health and forest productivity requires an understanding of both the condition of the forest and the forest management objectives for that forest. Objectives are set by landowners (private, public, tribal, trust) and by society through policy and regulation.
- Forests, forestry, and forest management objectives change over time.
- Issues of forest health share common themes, but regional and local differences (cultural, political, economic, and ecological) make each forest health issue unique.
- Forest health is an informal and technically inexact term.
- Forest health issues can be generally organized into four broad categories: forestland base, sustainable forestry, biodiversity, and human and natural influences.
- A single national prescription for forest health restoration is not appropriate because economic climate, cultural traditions, political dynamics, and ecological systems vary widely throughout the country.
- Foresters and their colleagues in other natural resource professions need to work closely together to clarify forest health objectives before some forest health issues can be resolved.
- To help promote understanding and assist in resolving these issues at local and regional levels, the report recommends approaches professional foresters may use in working with others in their communities to:
    - Develop and articulate expectations of what our forests can provide;
    - Identify forest health and forest productivity issues;
    - Promote professional and public understanding of the issues; and
    - Work continuously to enhance the health and productivity of the nation's forests.

Council
Society of American Foresters
May 9, 1997

committee had struggled to reconcile the political nature of current forest health debates with the belief that a professional view of forest health would clarify the issue. By the time of the last meeting, the committee was in agreement that it is nearly impossible to articulate a single or "correct" view of forest health in the absence of a clear vision of what is expected of America's forests.

The conclusions in this report are supported by all of the committee members. This is both a strength and a weakness, because the scope of the conclusions is limited to points of consensus. Some readers may be disappointed that this report does not go far enough, while others may feel the report stretches the limits of what they can accept.

The committee submits this report to the SAF membership, and to society-at-large, as a small step toward a societal goal of sustaining the long-term health and productivity of forests. It should be viewed as part of a series of ongoing incremental advances in professional forestry. The purpose of our report is to move forest health debates beyond rhetoric and polarization. Now it is up to SAF members, working with other professionals and in collaboration with interested citizens, to take the next steps forward.

National Committee on Forest Health and Productivity

A primary responsibility of the committee was to coordinate a grassroots effort to involve members of the Society of American Foresters in a dialogue about forest health. The committee used the information developed by the task force as background, focusing on understanding different perceptions of forest health held by members of the organization. Through interactions with members around the country, described in Appendix 2, the committee developed a common sense approach for addressing forest health and forest productivity.

20 to 50 million acres of forest each year (MacCleery et al. 1995). Landowners and society at large agreed that wildfire control was needed. Fire prevention reduced wildfire to an average of 3 to 5 million acres annually. Today, landowner and societal objectives have changed. It is clear that wildfire suppression no longer achieves everyone's objectives (Clark and Sampson 1995). Fire prevention still protects property and landowners' investment in standing timber, but it has unintended consequences such as increased fuel loading, greater risk of catastrophic fire, and alterations in fire-dependent ecosystems. A single fire suppression prescription is not adequate to meet the wide variety of objectives that exist today.

Forests, forestry, and forest management objectives change over time. This is evident in the history of American forests, changes in the forestry profession, and the evolution of forest management objectives over the last century.

Forest cover in the United States declined significantly between 1860 and 1910, leading to the conservation movement of the latter 19th century and improved forest conditions. The decline corresponded to a tripling of American population, extensive use of wood for energy and building needs, and clearing of forests for farming (MacCleery 1993). Eighty million acres were cut, burned, and left unstocked. Populations of some wildlife declined precipitously as a result of unregulated hunting and massive habitat conversion from forest to farm.

Forest conditions have since changed significantly. In the 1920s the rate of forestland conversion to farms stabilized. With more efficient agricultural production, marginal farms were abandoned and reverted to forest (SAF 1991). Beginning in the 1950s, the quantity and annual growth of forests started increasing for the nation as a whole. This increase is attributed to both natural regeneration and forest management efforts. Professional wildlife management, including harvest regulation, restoration of locally or regionally extirpated species, and habitat protection, improved conditions for some wildlife.

The future promises further changes. Increasing world population and rising living standards around the globe will create more demand for timber and other forest uses and cause more concern about environmental protection (Haynes et al. 1995; FAO 1995). In the next twenty years, world population is expected to grow by one third. The impacts of people on forests and forested environments will undoubtedly grow as human population continues to increase and per capita land area shrinks.

Forestry contributed significantly to reversing the declining condition of American forests late in the 19th century. In 1900, European-trained forester Gifford Pinchot and six other pioneering foresters established the Society of American Foresters to advance the science, technology, education, and practice of professional forestry in the United States. Healthy forests were defined as stands where damage by insects and diseases to trees and their products was checked, controlled, or regulated (Baxter 1952). These early foresters, who had a clear sense of what the nation wanted from its forests, focused on efficient management guided by scientific knowledge (Gottlieb 1993; Nelson 1995).

Then, in the early 1990s, both the USDA Forest Service and the Bureau of Land Management adopted ecosystem management as a policy for managing federal lands (Czech 1995). Ecosystem management is sometimes described as a new spin on forest practices that have been in effect for a long time (SAF 1993b). Ecosystem management concepts do reflect a change in philosophy and policy for federal lands, but they have yet to spawn the paradigm shift, complete with changes in values, theories, methodologies, and tools (SAF 1993a; Cortner 1995).

Assessment of forest health on federal lands has become increasingly controversial. The new federal laws clearly established the right of every citizen to be involved in determining objectives for public land (Dana and Fairfax 1980). Reaching agreement on desired forest conditions and objectives is extremely difficult, and is often portrayed as debate about forest health.

Objectives of private landowners have changed as a reflection of broader changes in society. For example, private landowners increasingly cite nonfinancial factors, such as wildlife and scenery, among the reasons they own forestland (Lankford 1994). When financial investment is a primary landowner objective, instability in the economic, regulatory, and investment climate has necessitated changes in management. For example, the 1986 Tax Reform Act reduced advantages for treating timber as a capital asset (NFLC 1994; Craig 1994). This altered the economic incentive for long-term management and resulted in changes in management, even though landowners' objectives stayed the same.

Disagreement about the extent to which private lands are obligated to meet societal objectives is adding to the debate about which objectives should take precedence (SAF 1994a). Private owners have the right to set objectives on their own land, subject to duly established regulation and policy; society, through regulation and policy, has the right to set objectives for public lands. These rights remain distinct until objectives that cannot be achieved on a single ownership are considered.

Clean water and wildlife habitat are examples of societal objectives that cross ownership boundaries (MacDonnell and Bates 1993; SAF 1991). The Clean Water Act and the Endangered Species Act define limits to private rights and set objectives for public lands. But since water and endangered species cross ownership boundaries freely, the ability of one landowner to meet these societal objectives is influenced by the activities of adjacent landowners. The obligation of private lands to meet societal objectives that cross property lines is hotly debated (SAF 1991, Grumbine 1992). The issue is often portrayed as a forest health concern. Congress and the US courts are deeply involved, testing the boundaries of private property rights and societal objectives expressed through laws and policy.

The Seventh American Forest Congress, convened in February 1996 and sponsored by a number of organizations including the Society of American Foresters, aspired to move beyond controversy by developing a consensus vision of what is expected from our nation's forests (Banzhaf 1996). Convening 1,500 people from diverse constituencies for four days of discussion,

as a tree (Kolb et al. 1994). The application of health to complex forest systems is based on an assumption that ecosystems and organisms share similar qualities that can be assessed the same way. But the concept of health becomes more indefinite and inexact as it is applied to increasingly complex systems (Kolb et al. 1994). When health is applied to a forest stand or ecosystem, many more dimensions must be considered.

Temporal scales introduce further complexity to forest health issues. An insect epidemic that lasts five years may result in the perception, during the outbreak, that the forest is unhealthy. But, examined over a 100-year period, the five-year epidemic may be inconsequential to the health of the forest. Such environmental fluctuations are a normal part of forest dynamics (Botkin 1990). The idea that forest health is a static condition is challenged by the knowledge that change over time is a natural dynamic of forests (Botkin in Sampson et al. 1994).

The appropriate response to a forest health issue depends on a different combination of ecological, economic, cultural, and political factors, operating at different spatial and temporal scales. Even with similar forest health themes arising across regions of the country, the issues manifest themselves differently in each place they occur (MacDonnell and Bates 1993). With so much variation in ecological systems, as well as regional differences in culture, politics, and economic climate, no two issues are likely to play out the same way (Lee 1993).

Society of American Foresters members have different ideas about how to sustain healthy forests. Members' views about landowners' rights to set forest management objectives influence their perspective about the role of the Society of American Foresters in forest health debates (SAF 1993b, 1993c). Some members believe the organization should play a strong role in policy and legislative debates to resolve forest health issues (SAF 1995b). Some would like this role to be advocacy for certain forest management objectives. Others would like the role to be contributions of scientific expertise. Some members are critical of the organization for not anticipating national issues or developing timely responses, while other members feel that local and regional units of the organization, not the national unit, should be addressing forest health issues (SAF 1993c). But, almost without exception, foresters want a "professional" view of forest health to be articulated.

CONCLUSIONS

After two years of intense discussion, consideration of the views of Society of American Foresters members, and careful reflection about what comprises a healthy forest, the committee drew three conclusions: forest health is an informal and technically inexact term; a single national prescription for forest health is not appropriate; and, foresters and their colleagues in other natural resource professions may need to work closely to clarify objectives before some forest health issues can be resolved.

Forest health is an informal and technically inexact term. The concept of forest health is based on an analogy drawing parallels between human and environmental health (Ehrenfeld 1992).

Expectations of what our forests should provide are better determined at regional and local levels. Objectives need to be specific to the forest condition and land ownership and based on the unique cultural, political, economic, and ecological attributes of each place.

Foresters and their colleagues in other natural resource professions may need to work closely to clarify objectives before some forest health issues can be resolved. Many debates about forest health are disagreements about the objectives or desired condition of the forest in question (Kolb et al. 1994). To resolve a forest health issue, the people involved in making it an issue need to understand how their objectives differ. The process of resolving objectives will not be the same on public and private lands, where the rights of citizens to be involved are different.

Foresters play an important role by helping people think about forest health issues and involving them in a meaningful dialogue about objectives (Lee 1993; SAF 1991; Slover 1996). Productive discussion about forest health issues, as described in Appendix 5, begins by developing a clear understanding of the specific forest in question. This requires an awareness of the ownership pattern, scale, and relevant timeframe. The next step is to describe the current condition of the forest in question. Without judging whether the forest condition is good or bad, a description can be developed that provides a "snapshot" of the forest in question.

The most difficult part of resolving forest health issues where people have different objectives is to identify what the forest *can* provide, and to understand each other's expectations of what the forest *should* provide. Understanding how perspectives vary on public and private lands will help clarify management objectives. On private lands the objectives are set by landowners, subject to laws and regulations. On public lands the objectives are determined by society. Making value judgments about forest condition is an inevitable part of clarifying objectives (Balster 1996; Regier 1993). Foresters play a valuable role by assessing the condition of the forest, explaining what can be expected from it, and identifying where differences in forest management objectives arise from differences in values.

Once people have a common understanding of the condition of the forest and what can be expected from it, management prescriptions may be developed to achieve objectives (Angermierer and Karr 1994). Progress toward the objectives needs to be assessed at periodic intervals; the results of this assessment may indicate a need to change management practices or objectives. Through this logical progression of steps, foresters provide information about forest conditions, help clarify objectives, and contribute to the resolution of forest health issues.

Respond. Local SAF units bear the primary responsibility for analyzing local and regional issues and involving forestry professionals. Responses to issues should draw on the best available scientific information and professional experience to acknowledge possible causes, assess the adequacy of data, identify gaps in knowledge, and recommend management response options.

Link science and policy. Within each SAF unit, better integration of scientific information about forest conditions and policy to resolve forest health issues is needed. SAF Council should take the lead, considering linkages among SAF units, between SAF and other professional organizations, and among SAF, landowners, and participants in public policy processes.

Measure and assess. SAF working groups and units should participate in developing and using state-of-the-art methodologies to measure and assess forest conditions and trends.

Think broadly. SAF members assessing forest conditions and determining what forests can provide should

- consider both landowner and societal objectives across the landscape and over time;
- base forest management activities on site-specific consideration of forest conditions and probable outcomes;
- consider possibilities for cross-ownership cooperation to maintain and improve productivity at larger scales; and
- develop close working relationships with other natural resource professionals and stakeholders.

Educate. SAF members, individually and through SAF activities, should actively participate in continuing education forums and promote natural resource curricula that ensure students have a strong foundation in physical, biological, and social sciences.

Enhance productivity. SAF members should promote professional forest management to maintain and enhance the productive capacity of forests and to produce the goods, services, and quality of life that, given the conditions of each forest, can be provided to meet people's needs and desires.

Communicate. SAF members, individually and through SAF activities, should communicate the forest health and forest productivity consequences of laws, regulations, policies, and management activities. Many local and regional actions to resolve forest health issues will have further reaching impacts and implications. Information about local and regional issues needs to be coordinated with other units of SAF and shared widely beyond the organization.

The next steps are up to state, regional, and local units of SAF. Actions by individuals and SAF units can move the national debate beyond the current rhetoric by acknowledging that forest health can be both a value judgment based on objectives and a measurable condition of the forest itself. Leadership at the state, regional, and local level can play a significant role in helping society and landowners identify common expectations of our nation's forests, and in determining

APPENDICES

Appendix I. Charge to the Committee, Summary of Charter

The Society of American Foresters National Committee on Forest Health and Productivity was chartered to follow up on prior work by the task force on Sustaining Long-Term Forest Health and Productivity. The task force submitted its report, *Sustaining Long-term Forest Health and Productivity,* to the Society of American Foresters Council in December 1992. Council accepted the report but did not adopt the draft position statement. In the following months, differences of opinion and concern among members about the report and its findings made it impossible for the organization to reach a consensus position.

Following considerable study and deliberation (Siegel 1994), the Council on July 7, 1994, chartered a National Committee on Forest Health and Productivity to accomplish the following objectives:

1. Coordinate Society of American Foresters member involvement in considering the issue of sustaining long-term forest health and productivity;

2. Help the Society of American Foresters provide the public with the professional view on how to sustain the long-term health and productivity of the nation's forest resources; and

3. Develop a position and relevant interim products as appropriate for review and approval of the Society of American Foresters Council that reflect regional resource and ownership differences, represent the best science currently available, and clearly establish the profession of forestry as vitally concerned and involved with an issue of national and global importance.

Membership of the committee was selected to represent the diversity of Society of American Foresters' membership. Geographic location, employment, experience, gender, and age were primary considerations. Scientific expertise in forest health issues was not a consideration, although some committee members are scientists. The objective in appointing the committee was to ensure the dialogue would reflect regional ownership, resource, and management differences.

Recognizing the role envisioned for them, the committee interpreted the Council's charge as a challenge to (1) clarify the professional view of forest health and forest productivity issues; (2) clarify the role of the forestry profession and Society of American Foresters in responding to forest health and productivity issues; and (3) provide a basis for presenting professional views on forest health and productivity issues to the general public.

Appendix II. Process Used in Developing the Committee Report

The committee held its organizing meeting in September 1994 at the Society of American Foresters National Convention in Anchorage, Alaska. In November 1994, it met to review the task force report, the transcript from the Critical Issues Forum on the task force report held at the 1993 National Convention in Indianapolis, Indiana, and other written comments. The committee decided not to critique the task force report, but to use it as information to help meet the charge set out in the charter.

The committee drafted a set of premises and 22 questions for addressing forest health and forest productivity issues. This draft questionnaire was sent to state and multistate units in January 1995 for review and comment. In March 1995, the committee met to consider the unit's responses and to revise the premises and questions.

A final questionnaire consisting of seven premises and only two questions was sent back to the units in April. The questions were (1) describe long-term forest health and forest productivity issues in your region, and (2) what is the Society of American Foresters' role in addressing these issues at the national, state, local, and individual member level? The instructions were to respond by August 31 with comments about the premises and answers to the questions. About two-thirds of the units responded, with varying degree of detail in their answers.

The responses from the Society of American Foresters units were reviewed and considered by the committee in September 1995. The responses reflected many interpretations of forest health and forest productivity issues. They were of significant value to the committee in refining the context for developing a professional viewpoint. They helped identify common issues and regional differences and aided the committee in developing recommendations regarding forest health issues.

The committee continued to deliberate its findings and conclusions at the 1995 National Convention in Portland, Maine. They presented a progress report to the House of Society Delegates, and they held an informal forum to update Society of American Foresters members and solicit comments and opinions about their preliminary findings, conclusions, and recommendations. A first draft of the committee's report was prepared and subsequently circulated for review and comment to the chairs of the Executive Committee, Committee on Forest Policy, Forest Science and Technology Board, and Council Subcommittee on Forest Policy.

A draft report with recommendations was sent to Society of American Foresters units for review and comment in late December 1995. The committee did not include a summary of unit responses to the questionnaire in the draft report because of the wide variation in content of the responses. Units had been asked to describe long-term forest health and forest productivity issues in their region to inform the committee's discussions, and the responses did not lend themselves to

Appendix IV. Federal Laws, Established 1960–1976

- Multiple-Use-Sustained-Yield Act of 1960
- Wilderness Act of 1964
- Wild and Scenic Rivers Act of 1968
- National Environmental Policy Act of 1970
- Clean Air Act of 1970 (as amended)
- Clean Water Act of 1972 (as amended)
- Federal Advisory Committee Act of 1972
- Endangered Species Act of 1973 (as amended)
- Forest and Rangeland Renewable Resources Planning Act of 1974
- National Forest Management Act of 1976
- Federal Land Management and Policy Act of 1976

Appendix V. Suggested Approach for Discussing and Resolving Forest Health Issues

A six-step process, proposed by Neil Sampson, senior fellow at American Forests, Forest Policy Center (March 1996), is suggested as a way to think about forest health issues and involve people in a meaningful dialogue. This process, modified slightly by the committee, is:

1. Describe the specific forest in question, making sure to address scale, timeframe, and ownership patterns.

2. Describe the current condition of the forest in question.

3. Identify a vision for the forest that describes what is, and is not, desired. This will clarify management objectives. When conflicting objectives are apparent, differences in values need to be understood.

4. Develop and implement strategies, including management, to achieve the vision of what is desired.

5. Assess progress toward the vision and objectives.

6. In light of results, make changes in management or the objectives.

This process is not a cookbook approach that yields the same answer every time. It is a checklist for a logical progression of steps to help foresters provide information about forest conditions, clarify objectives, and facilitate resolution of forest health issues.